UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

MAR 23 1990

Art Dalla Piazza
Department of Environmental Resources
Bureau of Solid Waste Management
7th Floor, Fulton Bldg.
P.O. Box 2063
Harrisburg, PA 17120

Re: Nockamixon Township - Route 563 - PA-2483

Dear Mr. Dalla Piazza:

We are forwarding to you copies of the final Site Inspection report for the above referenced project. If there are any questions concerning this report please call me at 215-597-1073.

Sincerely,

Paul Racette

Paul Racette
Pre-Remedial Section

Enclosure

cc: George Danyliw, DER (w/encl.)

R-585-10-9-14

SITE INSPECTION OF
NOCKAMIXON TOWNSHIP - ROUTE 563
PREPARED UNDER

TDD NO. F3-8903-20
EPA NO. PA-2483
CONTRACT NO. 68-01-7346

FOR THE

HAZARDOUS SITE CONTROL DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MARCH 14, 1990

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY	REVIEWED BY	APPROVED BY
MICHAEL SNYDER PROJECT MANAGER	ANDREW FREBOWITZ ASSISTANT MANAGER	GARTH GLENN REGIONAL MANAGER, FIT 3

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1	FOUR-MILE-RADIUS MAP

SECTION 1

1.0 INTRODUCTION

1.1 Authorization

NUS Corporation performed this work under Environmental Protection Agency Contract No. 68-01-7346. This specific report was prepared in accordance with Technical Directive Document No. F3-8903-20 for the Nockamixon Township - Route 563 site, located in Nockamixon Township, Bucks County, Pennsylvania.

1.2 Scope of Work

NUS FIT 3 was tasked to conduct a site inspection of the subject site.

1.3 Summary

The Nockamixon Township - Route 563 site is located on approximately 10 acres of land in Nockamixon Township, Bucks County, Pennsylvania. The site was used for the storage of approximately fifty 55-gallon drums (contents unknown) for an unknown period of time until 1980.

Although limited background information has been found for the site, Bucks County Department of Health (BCDH) file information reports that the Pennsylvania Department of Environmental Resources (PA DER) supervised drum removal and cleanup at the site in January 1980. No PA DER file information could be found for the site. According to the site owner, Heide Gawron, her father, William Schulburger, removed the drums without the supervision of any government agency.

BCDH inspected the site in 1981. Trichloroethylene (TCE) contamination was identified in approximately 11 private groundwater wells. The reported concentrations ranged to 150 ppb TCE. A soil sample from the former drum storage area revealed concentrations of 260 ppb TCE and 210 ppb perchloroethylene (PCE). BCDH also reported that a few drums, some leaking, were present on site. The BCDH report also noted paint-like substances and oil stains at the site. BCDH also noted that the drum storage area, approximately 20 feet in diameter, was devoid of vegetation.

All residents located in the study area rely on private groundwater wells for potable purposes. Three residential homes are located within 1,000 feet of the site. The population residing within the study area is approximately 3,172 people.

NUS FIT 3 conducted a site inspection of the subject site in April 1989. Analyses of on-site soil samples and a groundwater sample obtained from a nearby private well revealed elevated levels of TCE, PCE, and 1,1,1-trichloroethane (1,1,1-TCEA). A Quality Assurance Review and Toxicological Evaluation of the sample results can be found in sections 7.0 and 8.0, respectively.

SECTION 2

2.0 THE SITE

2.1 Location

The Nockamixon Township - Route 563 site is located less than 0.5 mile northwest of the intersection of Routes 563 and 412 along Brennan Road (a dirt road that connects both routes) in Ottsville, Nockamixon Township, Bucks County, Pennsylvania (see figure 2.1, page 2-2). The site is located on the United States Geological Survey (U.S.G.S.) Riegelsville, Pennsylvania quadrangle, at coordinates 75° 11' 17" longitude and 40° 30' 13" latitude. In relation to the southeastern corner of the Riegelsville, Pennsylvania quadrangle, the site is 3/8 inch north and 8-7/8 inches west.[1]

2.2 Site Layout

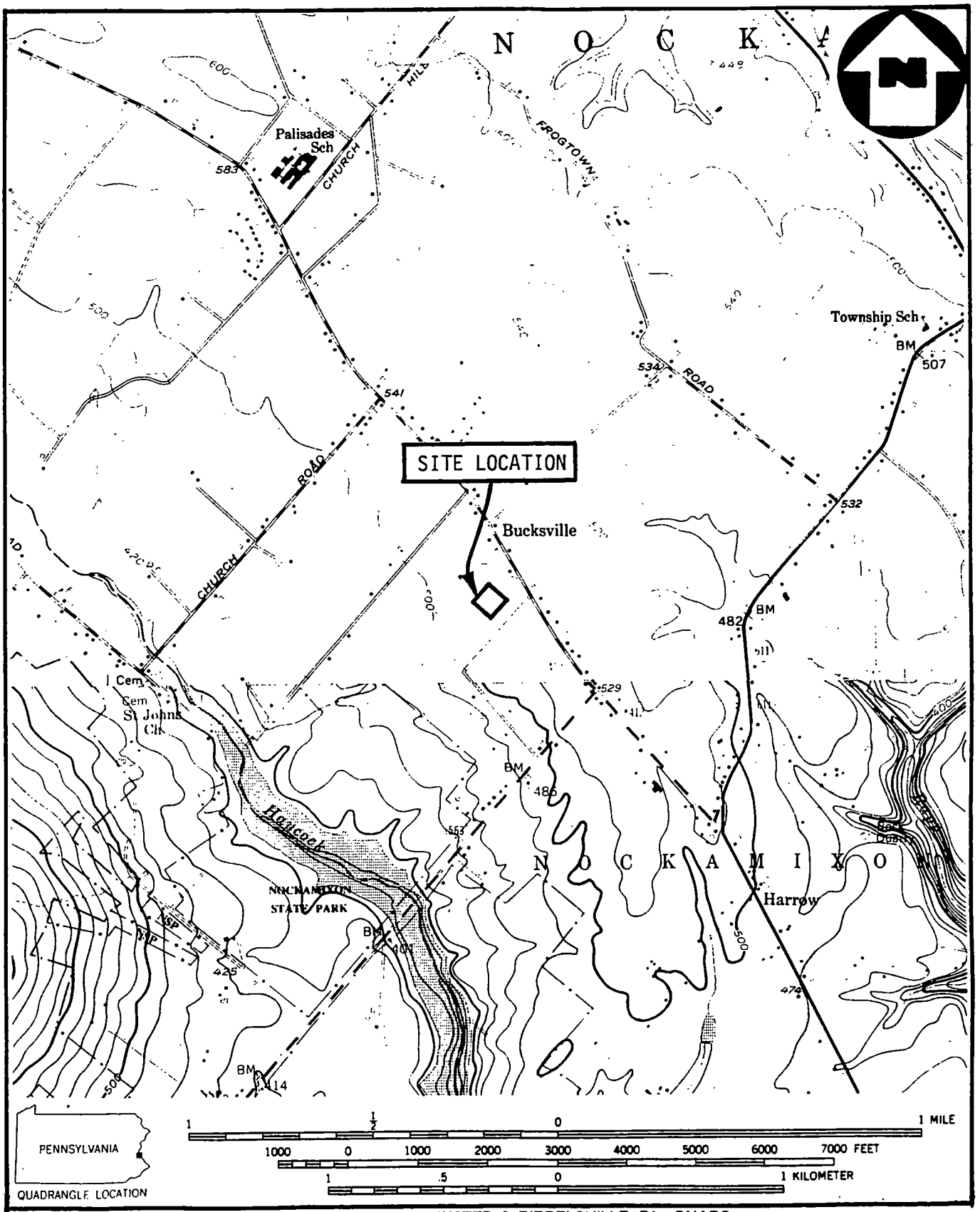
The area of concern is located on the southwestern portion of a 10-acre parcel of land. Brennan Road borders the area to the southeast. The remainder of the land is wooded. The area of concern, where drum removal took place, is less than one acre in size and, at the time of the FIT visit, consisted of (from east to west) a log, an area of stained soils, two mounds of soil that were approximately two to three feet high, and a depression that was approximately six feet in diameter. The significance of the mounds and the depression is unknown. Access to the area is provided by a dirt road located along the southwestern border of the property. Southwest of the access road, across the site's property line, FIT observed two small piles containing scrap metal and old tires (see figure 2.2, page 2-3).[2,3]

2.3 Ownership History

The site is currently owned by Heidi Gawron, of Schenectady, New York. Ms. Gawron inherited the land in the early 1980s from her father, William Schulburger. The site was originally part of the Schulburger estate, which consisted of approximately 76 acres of land and was purchased in 1968 by Mr. Schulburger.[3]

2.4 Site Use History

The site was originally used as farmland when it was part of the Schulburger estate. According to Roxanne Schulburger-Miller, during the 1970s, her father, William Schulburger, pumped out septic tanks and disposed the waste on site. According to BCHD file information, approximately fifty 55-gallon drums had been stored on site until January 1980, when Mr. Schulburger removed them and cleaned up the site. It has been reported to the FIT that hunters currently use the property and that septic tank waste dumping may still be occurring on the property.[3,4,5]



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. BEDMINSTER & RIEGELSVILLE, PA., QUADS.

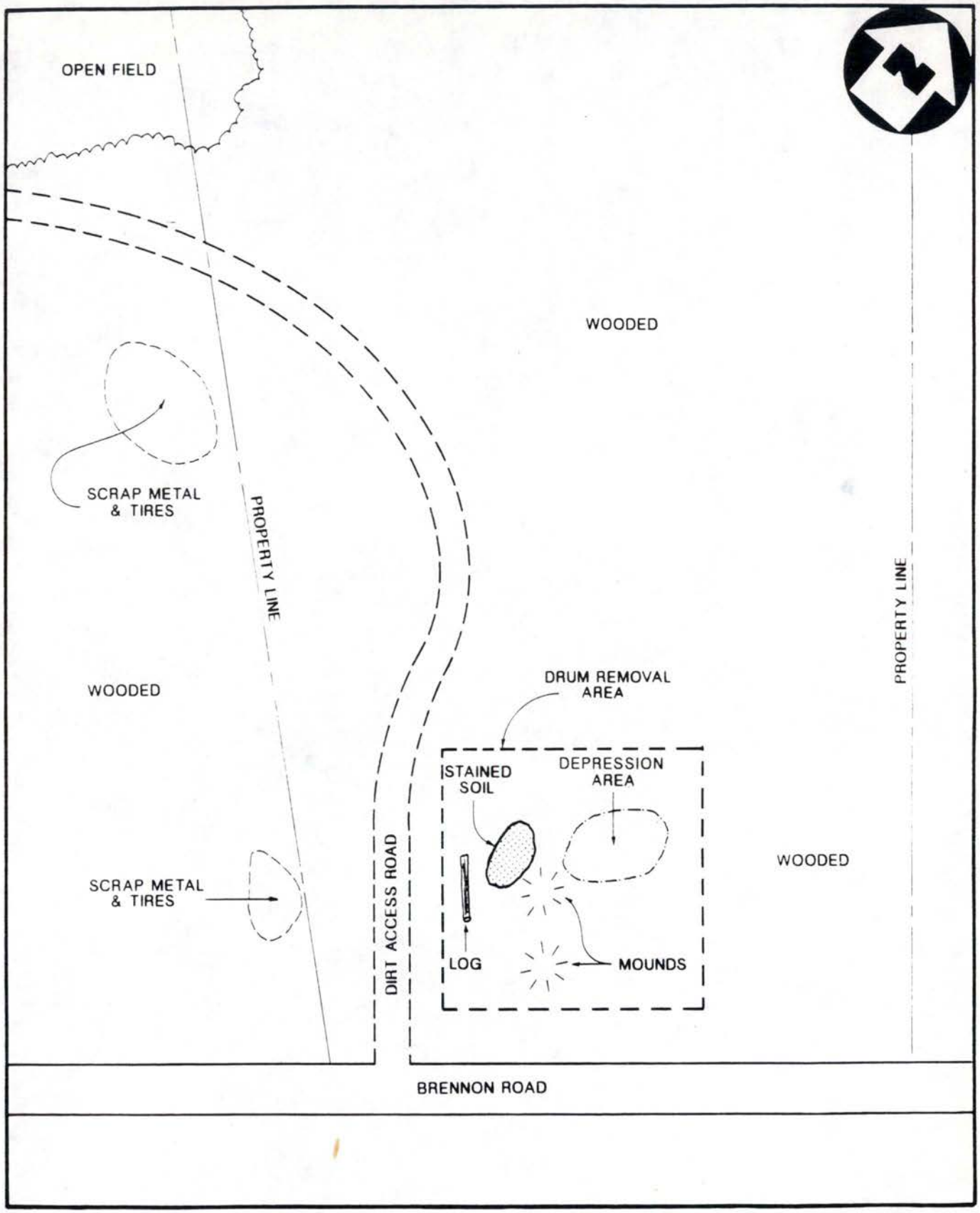
FIGURE 2.1

SITE LOCATION MAP

NOCKAMIXON TWP. ROUTE #563

SCALE 1:24000

NUS CORPORATION



SITE SKETCH

NOCKAMIXON TWP. ROUTE #563

(NO SCALE)

FIGURE 2.2

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2.5 Permit and Regulatory Action History

The site was used as a drum storage area for several years in the 1970s. In January 1980, PA DER visited the site. In 1981, BCHD also visited the site. According to BCHD, Gary Bonner, of PA DER, stated that approximately 50 barrels were lying in 2 piles on site. There were indications that many of the barrels had leaked. No known permits have been issued for this site.[5,6]

BCHD received a complaint in February 1981 from Larry Hall, who owns property adjacent to the site. According to Mr. Hall, high amounts of TCE had been discovered in his home well. BCHD sampled several home wells in the area and collected one soil sample from the area where the drums had been. Twelve samples were taken. Four of the home well samples revealed concentrations of TCE between 110 and 150 ppb. Other home wells sampled also contained low concentrations of volatile organic compounds (VOCs). The one soil sample taken contained 79 ppb of 1,1,1-TCEA, 260 ppb TCE, and 210 ppm PCE (see appendix C for BCHD file information).[6]

The site owner, Heidi Gawron, and her sister, Rosalice Uhl, indicated that their father, William Schulburger, had removed all the drums in early 1980. No other regulatory action has been taken at this site.[3,6]

2.6 Remedial Action to Date

According to BCHD file information, in January 1980, PA DER supervised a drum removal and cleanup of the site. A file search was conducted in the Norristown PA DER office, but NUS FIT 3 was unable to locate any file containing the details of this drum removal. According to Ms. Gawron and Ms. Uhl, their father, William Schulburger, removed all the drums on site with help from friends, without any supervision from PA DER. No other information has been found.[3,4,6]

SECTION 3

3.0 ENVIRONMENTAL SETTING

3.1 Water Supply

Water is supplied to residents located in the study area of the site by groundwater. All residents within the three-mile radius of the site rely on private groundwater wells for potable purposes. Three residential homes are located within 1,000 feet of the site. The total population within the 3-mile radius of the site is approximately 3,172 people.[1,7] This figure is based on a count of homes within three miles of the site, multiplied by 3.8 persons per home.

The nearest home well is located 1,000 feet east-southeast of the site. This well, completed in the Brunswick Formation, is 6 inches in diameter and 435 feet in total depth and is cased down to 30 feet. Static water level in the well is approximately 258 to 400 feet, although another home well located 1,400 feet south of the site is reported to have a static water level of 200 feet.[7]

A total of 13 wells located in Nockamixon Township are completed in the Brunswick Formation (see appendix E). These wells are 6 inches in diameter, range in depth from 103 to 443 feet (median depth of 200 feet), and are cased between 24 and 170 feet (median cased depth of 31 feet). Consolidated rock is encountered from 63 to 320 feet below the surface. Static water levels range from 10 to 220 feet; well yields range from 0.03 to 20 gallons per minute (gpm).[8]

3.2 Surface Waters

No perennial or intermittent streams are identified immediately adjacent to the site. The surface water drainage would follow the topography downslope to the southwest. Runoff would eventually enter Haycock Creek, located approximately 3/4 mile southwest of the site. Haycock Creek flows southwardly for approximately two stream miles until it merges with Tohickon Creek. A reservoir is located where Haycock Creek and Tohickon Creek merge. All creeks are perennial. Tohickon Creek is considered a protected cold-water fishery. The only known uses of Haycock Creek and Tohickon Creek are recreational uses. The reservoir is used for boating and fishing. No wetlands have been identified within three stream miles downstream of the site.[1,2,9,10]

3.3 Hydrogeology

The geologic and hydrogeologic conditions in the study area were researched as part of the site inspection. A preliminary literature review was conducted to determine surface and subsurface geologic conditions, soil character, and the status of groundwater transport and storage.

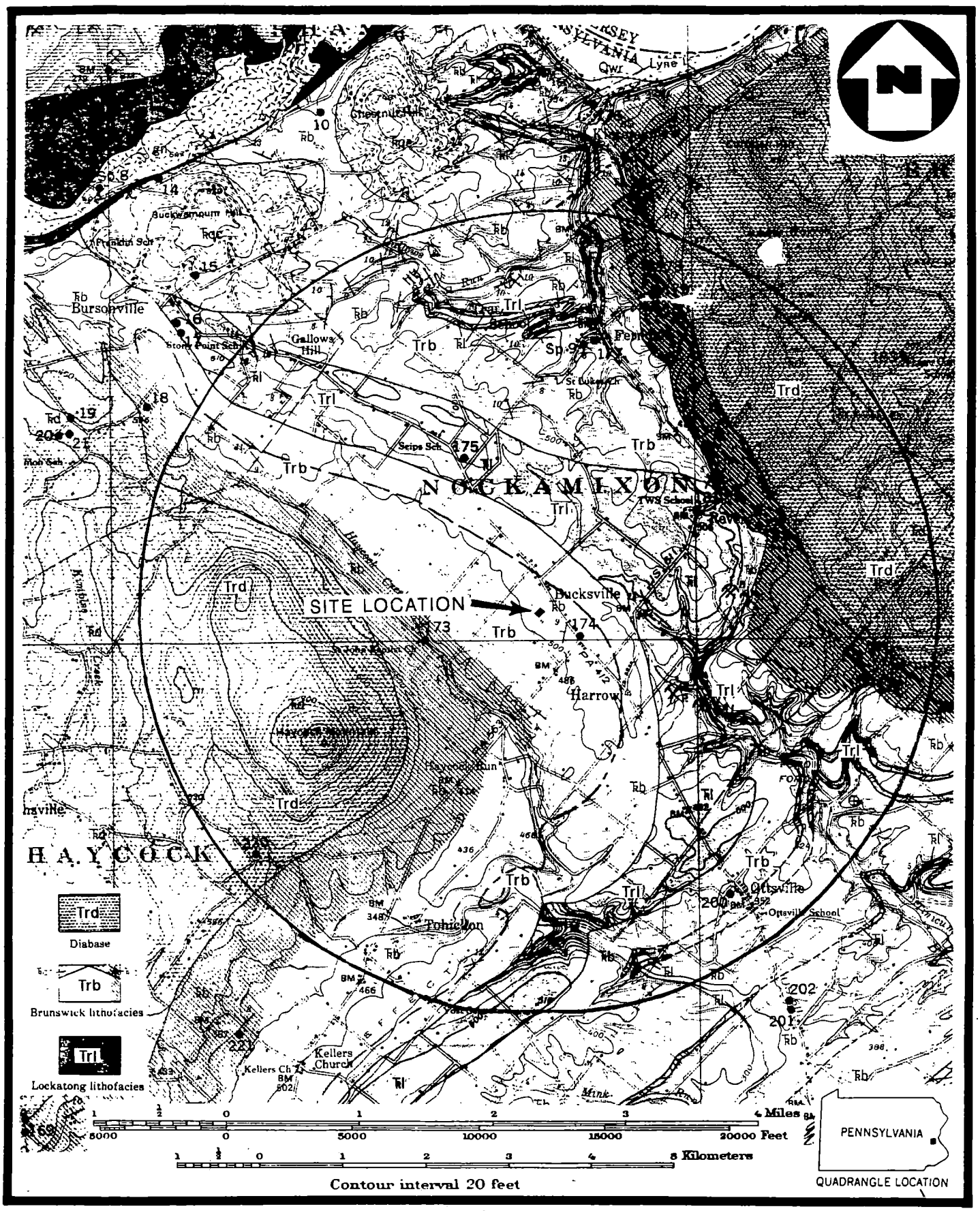
3.3.1 Geology

The Nockamixon Township-Route 563 site is situated within the Triassic Lowlands Section of the Piedmont Physiographic Province.[11] The rocks of this Triassic Section are more commonly known as the Newark Group, a 16,000- to 20,000-foot section of nonmarine sedimentary rocks and associated intrusive and extrusive basic rocks.[12] The Newark Group was deposited in the Newark Basin, which was part of a fracture system initiated by the widening of the Atlantic Basin and separation of the continents in Mesozoic time.[12,13]

The structural history of the Newark Basin can be applied to all six Triassic rift valleys that stretch from Nova Scotia to North Carolina. These half-graben basins were created during the Palisade Disturbance, the orogenic event that ended the Appalachian Orogeny in late Triassic time. The shape and extent of the original depositional basin were very similar to the present form of the outcrop belt and closely follow the regional grain of Appalachian structures.[12] Continuous downfaulting along the northwestern border has produced a regional dip of 10 to 20 degrees northwest.[14] The outcrop belt is broadest in Bucks County, where it attains a width of 32 miles.[15] The site area has a dendritic drainage pattern and a topography of broad, shallow valleys and rolling hills.[16]

The site is underlain by the late Triassic age Brunswick Formation (see figure 3.1, page 3-3).[15] The Brunswick Formation consists of a monotonous succession of reddish-brown mudstone and siltstone with local beds of claystone and fine-grained sandstone. The formation also contains abundant dinosaur footprints, along with bony fish, reptilian, and plant fossils. These fossils suggest a broad mudflat paleoenvironment with wandering water courses and weak external drainage. Long, warm climatic cycles produced episodes of a dry, oxidizing environment (resulting in thick sequences of ferric-oxide-rich mud) alternating with moister periods (resulting in dark gray mud accumulation). The abundant ferric-oxide pigment in the mud suggests considerable weathering in the northwest upland source area. The thickness of the Brunswick is approximately 6,000 feet.[12]

Underlying and interfingering with the Brunswick Formation and cropping out in narrow bands throughout the study area is the Triassic age Lockatong Formation.[15] The Lockatong Formation is composed of alternating detrital and chemical sediments. The detrital sediments consist of shales succeeded by platy dark carbonate-rich mud and argillite with the occasional ripple-bedded siltstone and sandstone. The chemical sediments consist of dark gray-black dolomitic mudstones succeeded by gray carbonate-rich argillite. The fossil content of the formation includes fish, labyrinthodont amphibians, fresh-water ostracods, and mollusks. These fossils, in addition to the cyclic detrital and chemical sediments, suggest a lacustrine paleoenvironment for the Lockatong. This ancient lake was stable for millions of years, although there were repeated expansion and waning of its areal extent.[12]



SOURCE: GROUNDWATER RESOURCES OF BUCKS COUNTY, PENNSYLVANIA

FIGURE 3-1

GEOLOGIC MAP

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NOCKAMIXON TOWNSHIP-ROUTE 563 SITE

The Lockatong Formation is contemporaneous with the lower-middle portion of the Brunswick Formation. This means that, while the Lockatong Formation was being deposited in the center of the Newark Basin, early Brunswick Formation sedimentation was occurring at the basin margins. When the Lockatong lake dried up, Brunswick Formation sedimentation continued throughout the basin. Given the unique depositional environment of the Lockatong, its thickness varies widely. The formation is about 3,750 feet thick at the confluence of the Delaware River and Tohickon Creek (7.5 miles southeast of the site).[12]

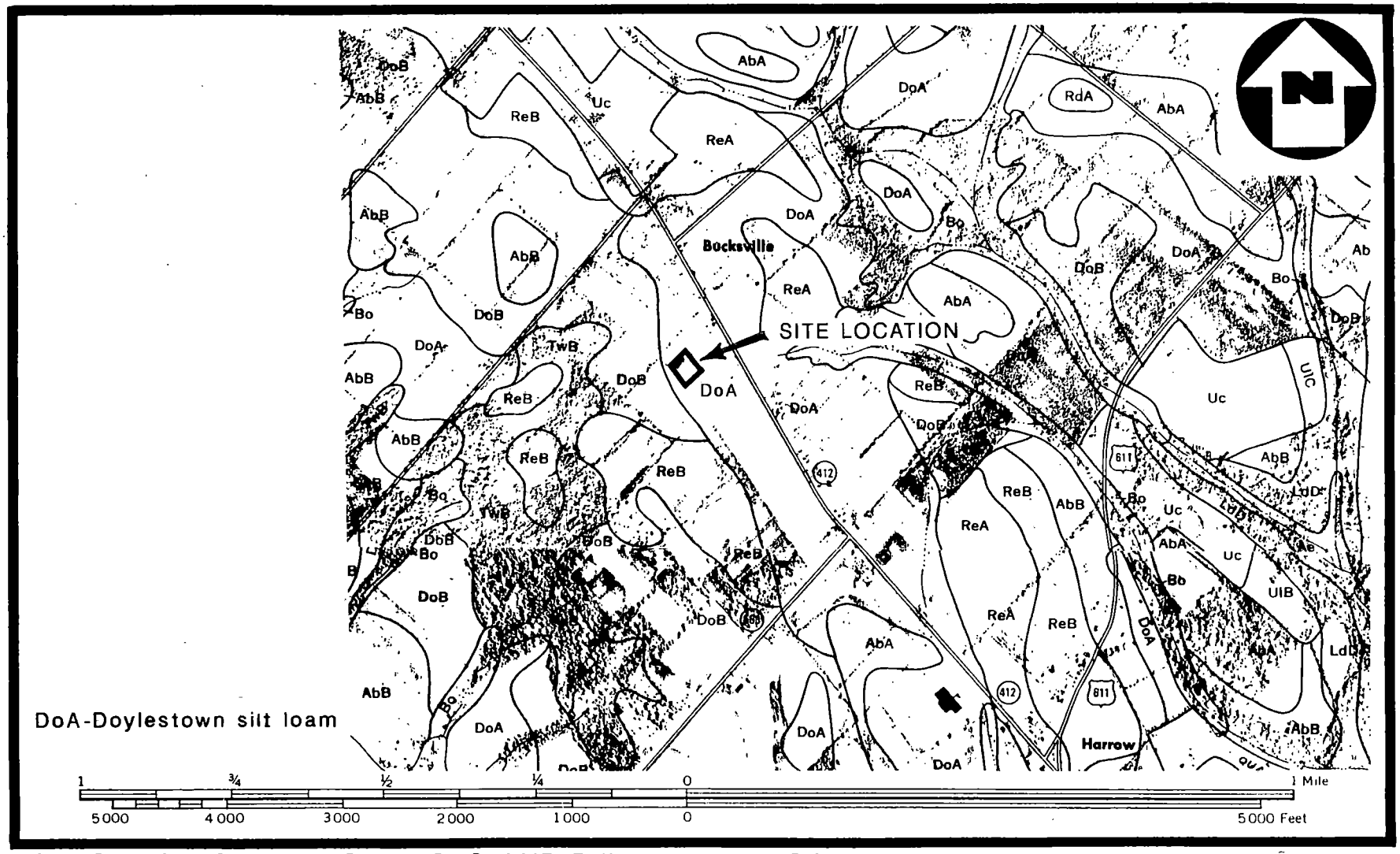
Bands of the Brunswick and Lockatong Formations have been extensively intruded by igneous diabase dikes/sills and, as a result, shale near the intrusive bodies has been altered to hard, dark-colored hornfels. The apparent width of the altered zone ranges from a few feet to a mile in outcrop but probably never exceeds a few hundred feet in thickness.[12]

Discordant, basin-shaped sheets and cross-cutting dikes of diabase intruded the Newark Group in late Triassic time; therefore, their stratigraphic position varies throughout the study area.[12] Cropping out 2.0 miles northeast and 1.2 miles southwest of the site, the diabase rock is dark gray to black, dense, and very fine grained and consists of 90 to 95 percent labradorite and augite.[15,16] These olivine-poor diabase rocks are characteristic of rift valley sequences and were emplaced during episodes of tensional rifting associated with the opening and widening of the Atlantic Basin.[12,14] The dikes are generally 5 to 100 feet thick, while the sheets are much thicker.[15]

3.3.2 Soils

There was no documented or observed soil disturbances on site other than soil stains.[2]

The site is underlain by a Doylestown Series soil. This soil (DoA - zero to three percent slopes) is a deep, poorly drained silt loam that formed in silty material, particularly windblown deposits, that overlie a variety of loamy materials weathered from shale and sandstone (see figure 3.2, page 3-5). A representative profile consists of a top 11 inches of a dark grayish-brown silt loam, 9 inches of a grayish-brown silty clay loam, 5 inches of a strong brown silty clay loam, 7 inches of a dark brown silt loam, and 21 inches of a brown silt loam. The soil has a slow permeability (less than 1.4×10^{-4} cm/sec), a moderate available water capacity, and a pH range of strongly acid to medium acid (5.1 to 6.0).[17]



SOURCE:SOIL SURVEY OF BUCKS AND PHILADELPHIA COUNTIES, PENNSYLVANIA

FIGURE 3-2

SOILS MAP

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NOCKAMIXON TOWNSHIP-ROUTE 563 SITE

3.3.3 Groundwater

The Brunswick Formation is the aquifer that underlies the site. The Brunswick Formation has a moderate to low permeability and a moderate secondary porosity due to vertical joints and bedding-plane fractures that have been enlarged by solution.[16] The Brunswick contains water under water-table and semi-artesian conditions in the weathered zone of the formation, which may extend to 600 feet or more. Wells in the Brunswick in Montgomery County range in depth from 90 to 916 feet. Well yields range from 24 to 220 gallons per minute (gpm), with an average of 40 gpm.[14] The Brunswick is an important source of water for domestic, industrial, and public supply in Bucks County. The reported yields of 52 wells for which records are available range from 2 to 250 gpm and average 40 gpm.[15] It is likely that the Brunswick Formation is hydraulically interconnected to the other rock units in the study area via fractures and joint openings. There are no documented barriers to groundwater flow (see appendix E).

The Lockatong Formation has a low permeability and a low porosity.[14] The capacity of the Lockatong to store and transmit water is very low; well yields range from 4 to 40 gpm, with an average yield of about 7 gpm.[14] In Bucks County, a total of 43 wells have a yield range of 2 to 25 gpm, with an average yield of 10 gpm. The formation has a low specific capacity (0.1 to 1.88 gpm per foot).[15]

The diabase has a very low secondary porosity and a low permeability.[16] In Montgomery County, well yields range from 0.3 to 35 gpm, with a median yield of 5 gpm.[14] In Bucks County, diabase is the poorest yielding aquifer. Wells generally obtain their yields from a depth of 50 feet or less, and the maximum depth from which a well in diabase is reported to obtain water is 125 feet. The average specific capacity is only a fraction of a gpm per foot. The reported yields of 5 wells range from 2 to 45 gpm and average 23 gpm.[15]

A wetland greater than five acres in size is located within three miles downstream of the site.[10] This wetland is hydraulically interconnected with the shallow groundwater aquifer that underlies it and serves as a discharge area for groundwater.

The expected direction of shallow groundwater flow is to the southwest, toward Haycock Creek. Flow direction is based upon topographical observations and the role of streams as discharge points for groundwater.

3.4 Climate and Meteorology

The area where the site is located has an average mean temperature of 54.6°F, with an average mean minimum temperature of 46.2°F and an average mean maximum temperature of 62.9°F. The annual precipitation in the area is 41.38 inches per year. The annual evapotranspiration in the area is 32 inches per year. The total net precipitation, determined by subtracting the mean annual evaporation from the mean annual precipitation, is 9.38 inches. The 1-year, 24-hour rainfall for this area is 2.75 inches.[18,19,20]

3.5 Land Use

The site is located between Routes 412 and 563 in a rural, wooded area in Nockamixon Township. Residential homes are located approximately 500 feet south of the site and 800 feet east of the site. Located north and west of the site is a wooded area. One mile west of the site is Haycock Mountain, part of State Game Land Parcel No. 157. Overall, the area surrounding the site is mostly wooded or farmland with scattered residential homes. No major industry has been identified in the area.[1,2]

3.6 Population Distribution

The site is located in a rural area. There are approximately 585 persons within a 1-mile radius of the site. Within a 2-mile radius, there are approximately 904 persons. The 3-mile radius includes approximately 1,683 persons. The total population within the 1-, 2-, and 3-mile radii is 3,172 people.[1,2]

3.7 Critical Environments

No endangered species have been identified within a three-mile radius of the site; however, two federally listed endangered birds are expected to be found as transient species in the project area. They are the bald eagle (Haliaeetus leucocephalus) and the peregrine falcon (Falco peregrinus). There is no listed critical habitat for these species in the project area.[21] No wetland areas have been identified within three stream miles downstream of the site.[10]

SECTION 4

4.0 WASTE TYPES AND QUANTITIES

BCHD file information indicates that the drum storage site contained approximately 50 drums in 2 piles. There were indications that many of the drums had leaked. Sample analysis taken by BCHD revealed concentrations of TCE and PCE in the soil where the drums had been. Several home wells in the area contained concentrations of TCE (see appendix C for laboratory results).[3,6] A file search was conducted in the Norristown PA DER office, but NUS FIT 3 was unable to locate a file for the site. It is not known what the drums contained or to where the drums were removed.

SECTION 5

5.0 FIELD TRIP REPORT

5.1 Summary

On Wednesday, April 12, 1989, NUS FIT 3 personnel Ruth Manning, Genie Waldstein, Brian Lipsitz, Claire Olsovsky, Richard Sheldon, and Michael Snyder conducted a site inspection of the Nockamixon Township - Route 563 site, located in Ottsville, Bucks County, Pennsylvania. On Tuesday, May 2, 1989, NUS FIT 3 personnel Ruth Manning, Brian Lipsitz, and Richard Sheldon returned to the site to complete the inspection. Permission for site access was granted by Heidi Gawron, the site owner. The FIT was accompanied on site on April 12, 1989 by Roxanne Miller and Larry Hall, neighboring property owners, and Robert Fulton, of PA DER. FIT 3 was accompanied on site on May 2, 1989 by Ms. Miller and Rosalice Uhl, neighboring property owners. Weather conditions at the time of the April 12 site visit were warm and partly sunny, with temperatures ranging from 60°F to 65°F. Weather conditions on May 2 were warm and partly sunny, with occasional showers and temperatures ranging from 55°F to 60°F.

A total of seven aqueous and six solid samples were collected and submitted for routine analysis, including blanks and duplicates (see figure 5.1, page 5-4). Photographs were taken at the site (see figure 5.3, page 5-7, and the photograph log, section 5.5).

5.2 Persons Contacted

5.2.1 Prior to Field Trip

Paul Racette
U.S. EPA
841 Chestnut Building
Ninth and Chestnut Streets
Philadelphia, PA 19107
(215) 597-1073

Robert Fulton
PA DER
1875 New Hope Street
Norristown, PA 19401
(215) 270-1948

Roxanne Miller
Adjacent Property Owner
and Sister of Site Owner
10 West Water Street
Hellertown, PA 18055
(215) 838-6472

Heidi Gawron
Site Owner
3009 Valley Pine Road
Schenectady, NY 12303
(518) 355-2029

5.2.1 Prior to Field Trip (continued)

Rosalice M. Uhl
Adjacent Property Owner
and Sister of Site Owner
Coopersburg, PA 18036
(215) 282-4105

Larry Hall
Adjacent Property Owner
RD No. 1, Box 212
Ottsville, PA 18942
(215) 847-2818

5.2.2 At the Site

Rosalice M. Uhl
Adjacent Property Owner
and Sister of Site Owner
Coopersburg, PA 18036
(215) 282-4105

Larry Hall
Adjacent Property Owner
RD No. 1, Box 212
Ottsville, PA 18942
(215) 847-2818

Roxanne Miller
Adjacent Property Owner
and Sister of Site Owner
10 West Water Street
Hellertown, PA 18055
(215) 838-6472

Robert Fulton
PA DER
1875 New Hope Street
Norristown, PA 19401
(215) 270-1948

5.2.3 Water Supply Well Information

The study area and the surrounding three-mile radius are supplied with water by private wells. There is no municipal water supply in the study area. The following off-site wells were sampled during the site inspection. For the locations of these home wells, see figure 5.2 (page 5-5). Well questionnaires are included in appendix D.

Larry Hall
RD No. 1, Box 212
Ottsville, PA 18942
Drinking
HW-1 and HW-6

Raymond C. Miller
RD No. 1, Box 213, Route 563
Ottsville, PA 18942
Drinking
HW-2

Robert Potter
RD No. 2, Box 66A
Park Drive
Kintersville, PA 18930
Drinking
HW-3

Samuel Arrigo
RD No. 1, Box 204
Ottsville, PA 18942
Drinking
HW-4

Kim Lindley
RD No. 1, Box 216
Ottsville, PA 18942
Drinking
HW-5

TDD NUMBER F3-8903-20

EPA NUMBER PA-2483

5.3 **SAMPLE LOG**

SITE NAME Nockamixon twp-Rt. 5

TRAFFIC REPORTS Organic	Inorganic	High Hazard	SAMPLE IDENTIFIER	PHASE	SAMPLE DESCRIPTION	SAMPLE LOCATION	TARGET USE	pH	FIELD MEASUREMENTS
CP882	MCBH82		HW-1	AQ	Clear, odorless	LARRY HALL RD #1 Box 212 OHSVILLE, PA 18942	Drinking water and Direct contact	7.42	conductivity 5.37×10^2
CN934	MCAF38		HW-2	AQ	Clear, odorless	RAYMOND MILLER RD #1 Box 213 R1563 OHSVILLE, PA 18942	Drinking water and direct contact	7.6	conductivity 5.26×10^2
CX870	MCAF39		HW-3	AQ	clear odorless	Robert Potter RD #2 Box 66A PARK DRIVE KINTERSVILLE, PA 18930	Drinking water and direct contact	6.9	conductivity 4.52×10^2
CX871	MCY686		HW-4	AQ		SAMUEL ARRIGO RD #1 Box 204 OHSVILLE, PA 18942	Drinking water and direct contact	7.2	conductivity 6.63×10^2
CAR21	MCY687		HW-5	AQ	Clear, odorless	KIM LINDLEY RD #1 Box 216 OHSVILLE PA 18942	Drinking water and direct contact	6.6	conductivity 4.8×10^2
CAR22	MCY688		HW-6	AQ	dup of HW-1	SAME AS HW-1	SAME AS HW-1	7.42	conductivity 5.37×10^2
CAR29	MCY694		AQ-0	AQ	Aqueous Blank	—	—	6.5	conductivity 2.0
CAR23	MCY689		SOL-1	SOL	Composite (1") black stained soil on top. lt. to med brn underneath, silty	20 feet west of dirt road, in area of stained soil on site.	Direct contact	—	no OVA reading above bkgrd
CAR24	MCY690		SOL-2	SOL	sandy texture, odorless SAME AS SOL-1	SAME AS SOL-1	SAME AS SOL-1	—	no OVA reading above bkgrd

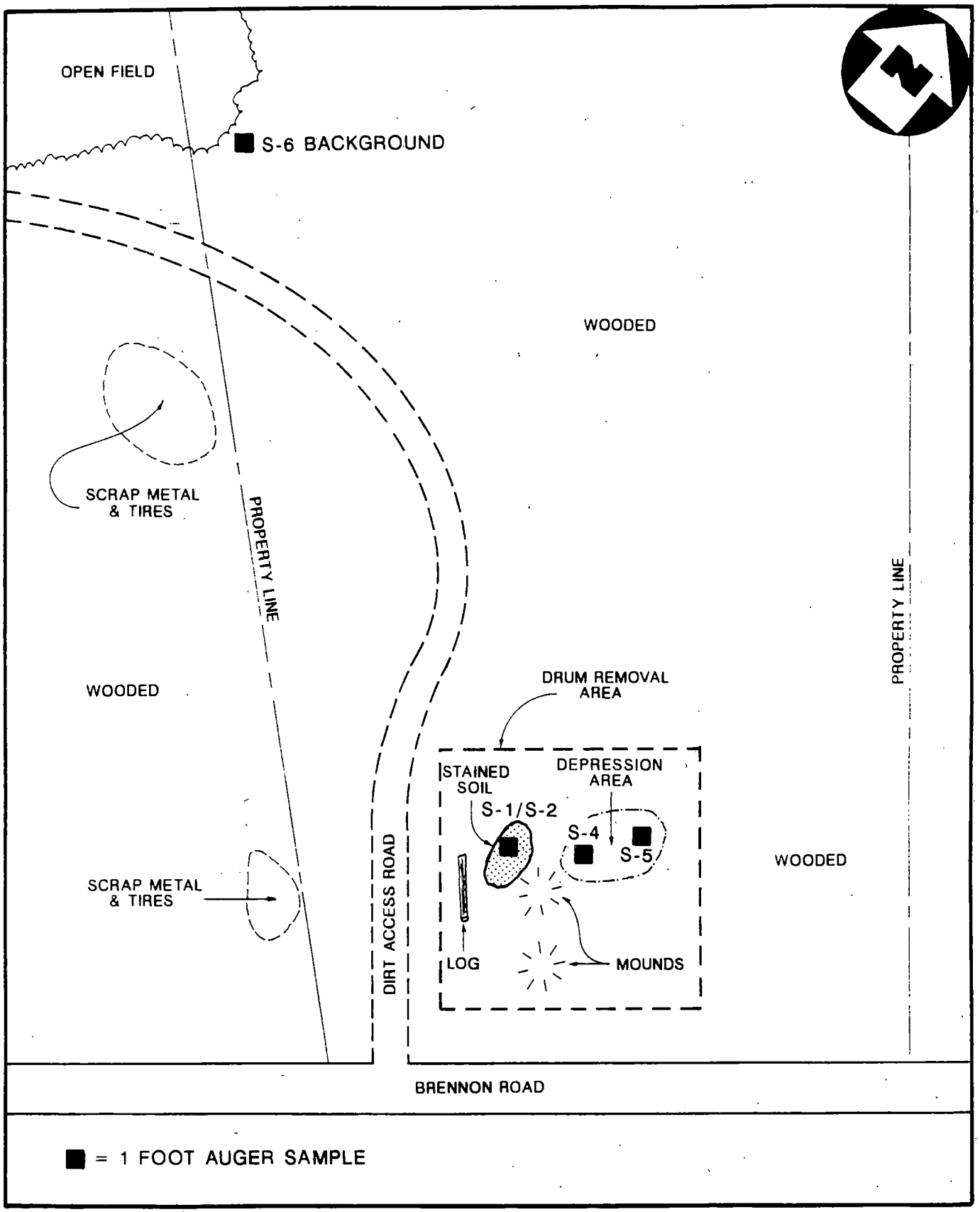
TDD NUMBER F3-8903-20

EPA NUMBER PA-2483

5.3 **SAMPLE LOG**

SITE NAME Nockamixon twp - Rt 56

TRAFFIC REPORTS Organic	Inorganic	High Hazard	SAMPLE IDENTIFIER	PHASE	SAMPLE DESCRIPTION	SAMPLE LOCATION	TARGET USE	pH	FIELD MEASUREMENTS
CW-137			Sol-3	AQ	Solid Blank				
LAR26	MCY691		Sol-4	Sol	Lt. BRN, odorless very muddy from recent rain	15 ft north of stained area in buried area	DIRECT CONTACT		no OVA reading above background
LAR27	MCY692		Sol-5	Sol	Lt. BRN, odorless very muddy from recent rain	20 ft north of stained area in buried area	DIRECT CONTACT		no OVA reading above bkgrd
LAR28	MCY693		Sol-6	Sol	Background soil. Lt BRN, with organic matter odorless, muddy	75 yards west of dirt road in line with stained soil	DIRECT CONTACT		no OVA reading above bkgrd



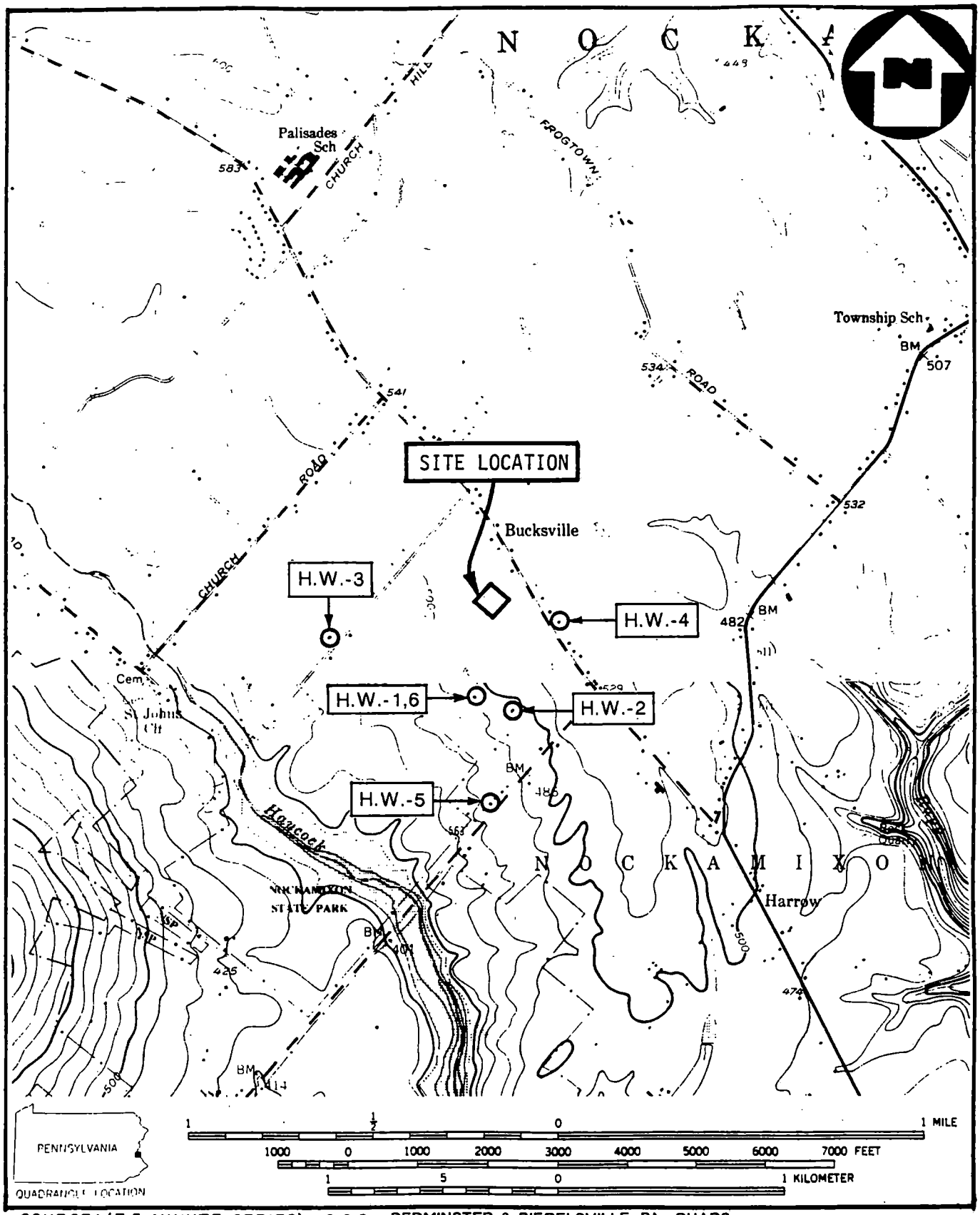
SAMPLE LOCATION MAP

NOCKAMIXON TWP. ROUTE #563

(NO SCALE)

FIGURE 5.1

NUS CORPORATION



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. BEDMINSTER & RIEGELSVILLE, PA., QUADS.

HOME WELL LOCATION MAP

NOCKAMIXON TWP. ROUTE #563

SCALE 1:24000

FIGURE 5.2

NUS CORPORATION

5.4 Site Observations

- The mini-alert was set on the X1 position; no readings were recorded above background.
- The OVA background reading was 5 ppm; no readings were recorded above background.
- "No Trespassing" signs were observed around the site.
- The site was located in a wooded area.
- Stained soils were observed at the former drum storage area.
- No leachate seeps were observed on site.
- Several drums that were observed on site during the preliminary assessment had been recently removed. Indentations were present where drums had been stored.
- Scrap metal and tires were scattered around the immediate area of the site at the time of the FIT visit.
- Stressed vegetation was observed near stained soil in the former drum area.

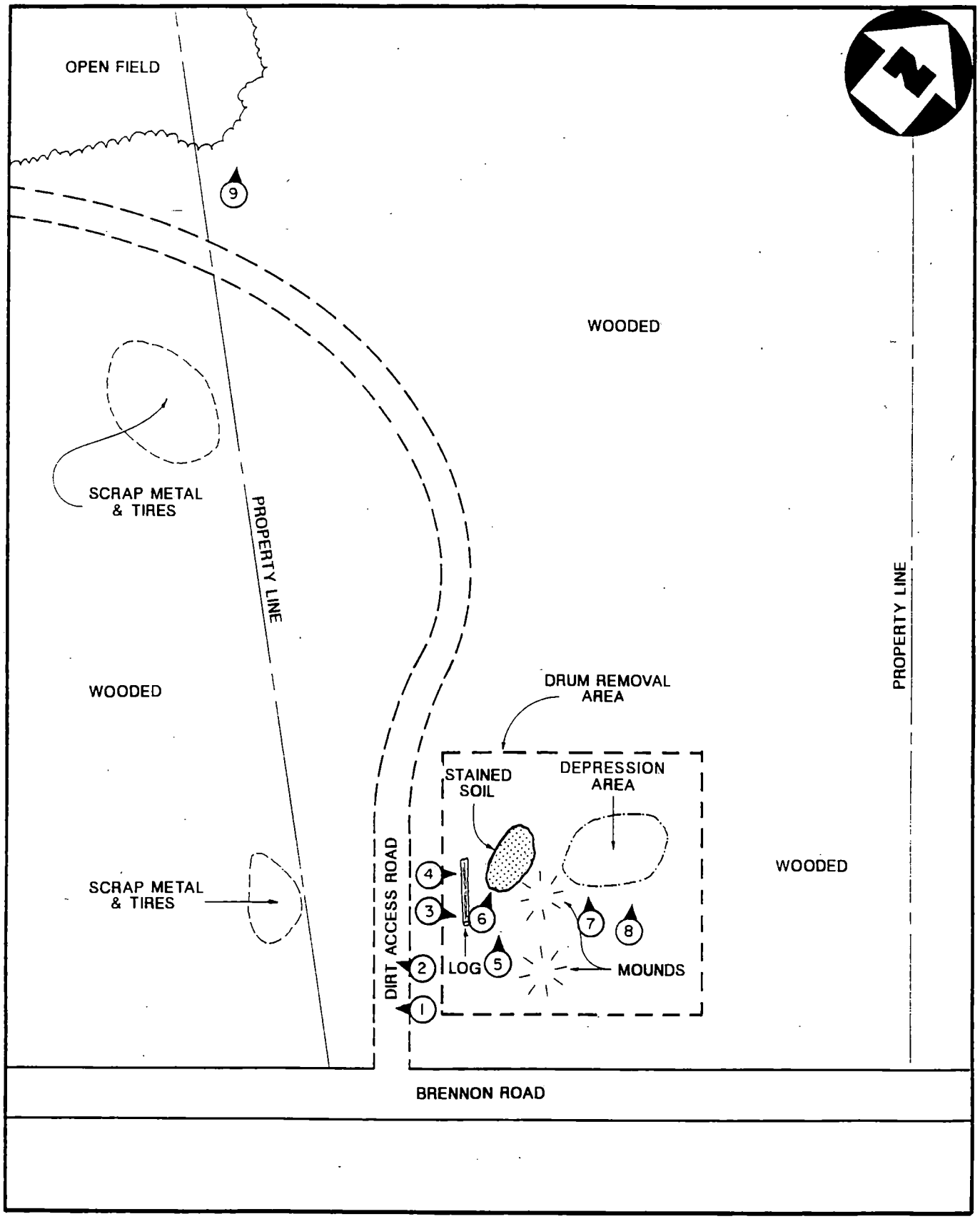


PHOTO LOCATION MAP

NOCKAMIXON TWP. ROUTE #563

(NO SCALE)

FIGURE 5.3

NUS CORPORATION

F3-8903-20

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
PA	2483

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Nockamixon Township	Route 563

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Ottsville	PA	18942	Bucks	617	

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
40° 30' 13" N	75° 11' 17"	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (Month Day Year)	02 SITE STATUS	03 YEARS OF OPERATION
05/02/89 04 12 89	☐ ACTIVE ☒ INACTIVE	Beginning Year / Ending Year — X UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☒ B. EPA CONTRACTOR NUS Corporation (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ____ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ____ (Name of firm) ☐ G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Ruth Manning	Environmental Scientist	NUS Corporation	(215) 687-9510

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Genie Waldstein	Toxicologist	NUS Corporation	(215) 687-9510
Claire Olsovsky	Biologist	NUS Corporation	(215) 687-9510
Richard Sheldon	Geologist	NUS Corporation	(215) 687-9510
Mike Snyder	Environmental Engineer	NUS Corporation	(215) 687-9510
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Robert Fulton	PA DER	PA DER 1875 New Hope Street Norristown, PA 19401	(215) 270-1948
Roxanne Miller	Sister of Site owner	10 West Water Street Hellertown, PA 18055	(215) 838-6472
Heidi Gawron	Site owner	3009 Valley Pine Road Schenectady, NY 12303	(518) 355-2029
Rosalice Nuhl	Sister of site owner	Coopersburg, PA 18036	(215) 282-4105
Larry Hall	Adjacent property owner	Road No. 1 Box 212 Ottsville, PA 18942	(215) 847-2818
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	5-2-89 9:00 A.M. 4-12-89 9:00 A.M.	May 2 warm, partly sunny with temperatures in the high 50s. April 12 warm, sunny with temperatures in mid 60s.

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Paul Racette	U.S. EPA	(215) 597-1073

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (Month Day Year)
Ruth Manning	NUS Corporation	FIT 3	(215) 687-9510	07 17 89

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

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 unknown

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	unknown		identified in soils/groundwater
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	trichloroethene	7901-6	on-site spills	8600	ug/kg
SOL	1,1,1-trichloroethane	71-55-6	on-site spills	2600	ug/kg
SOL	tetrachloroethene	127-18-4	on-site spills	5200	ug/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

NUS FIT 3 Site Inspection. April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: PA
02 SITE NUMBER: 2483

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 3175
02 ☒ OBSERVED (DATE: 4-2-89) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene were identified in a potable private well near the site. Within the study area, approximately 3175 people utilize private wells for drinking.

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported or observed.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported or observed.

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

None reported or observed.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 3175
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Elevated levels of trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene were identified in on-site soils. Access to the site is unrestricted. Approximately 3175 people live within a 3-mile radius of the site.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 1 acre
02 ☒ OBSERVED (DATE: 5-2-89) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene have been identified in on-site soils. The contaminated area is less than 1 acre in size.

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 3175
02 ☒ OBSERVED (DATE: 4-2-89) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene were identified in a potable private well near the site. Within the study area, approximately 3175 people utilize private wells for drinking.

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

None reported or observed.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 3175
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Elevated levels of trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene have been identified in on-site soils and a nearby potable well. Access to the site is unrestricted. Approximately 3175 people live within the study area and rely on private wells for potable water.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
PA	2483

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☒ OBSERVED (DATE: 4/12/82) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

During the FIT 3 site inspection, a small area was observed to be devoid of vegetation.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

None reported or observed.

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

04 NARRATIVE DESCRIPTION

None reported or observed.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: 5/2/89) ☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 3175

04 NARRATIVE DESCRIPTION

Elevated levels of trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene have been identified in on-site soils and a nearby potable well. Access to the site is unrestricted. Approximately 3175 people live within a 3-mile radius of the site.

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

04 NARRATIVE DESCRIPTION

None reported or observed.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None reported or observed.

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

04 NARRATIVE DESCRIPTION

Approximately 50 drums of material were stored on site until 1980, when the owner removed them. Some of the drums may have leaked.

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

None.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 3175

IV. COMMENTS

N/A

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

NUS FIT 3 site inspection. April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
PA	2483

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☒ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	50	drums
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify) N/A

05 OTHER

☐ A. BUILDINGS ON SITE

N/A

06 AREA OF SITE

10 Acres

07 COMMENTS

The site was used to store approximately fifty 55-gallon drums of material until 1980, when the owner removed them. Some of the drums may have leaked or spilled.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Contaminated soils have been identified on site. No liners, diking, or barriers are present.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Contaminated soils have been identified on site. Site access is not restricted.

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

NUS FIT 3 site inspections, April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
PA	2483

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)		SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	N/A	A. ☐	B. ☐	A. ☐	B. ☐	C. ☐	A. _____ (mi)
NON-COMMUNITY		C. ☐	D. ☒	D. ☐	E. ☒	F. ☐	B. 1000 ft (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER	03 DISTANCE TO NEAREST DRINKING WATER WELL
3172	1000 ft (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
200 (ft)	to the southwest	200 (ft)	360,000 (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and diameter relative to population and buildings)

The nearest home well is 6 inches in diameter and 435 feet in total depth and is cased to 30 feet.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS: Percolation through precipitation.	☒ YES ☐ NO	COMMENTS: To streams.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Haycock Creek	☐	0.75 (mi)
Tohickon Creek	☐	2.5 (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN: ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE	02 DISTANCE TO NEAREST POPULATION
A. 585 (NO. OF PERSONS)	B. 904 (NO. OF PERSONS)	C. 1683 (NO. OF PERSONS)	1000 ft (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
238	1000 ft (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The population in the study area is rural. No large population concentrations are located in the study area.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one) 10^{-5} - 10^{-7} cm/sec

☐ A. 10^{-4} – 10^{-6} cm/sec ☐ B. 10^{-4} – 10^{-6} cm/sec ☐ C. 10^{-4} – 10^{-3} cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one) 10^{-3} - 10^{-5} cm/sec

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
4-20 (ft)	unknown (ft)	5.1-6.0

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9.4 (in)	2.75 (in)	<1 %	southwest	<2 %

09 FLOOD POTENTIAL
N/A
SITE IS IN _____ YEAR FLOODPLAIN

10
N/A ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE N/A OTHER

A. _____ (mi) B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A _____ (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.5 (mi)	B. 1000 ft (mi)	C. _____ (mi)	D. adjacent (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is situated on relatively flat land in a rural wooded area.
One mile west of the site is Haycock Mountain, part of State Gameland Parcel No. 157.

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

NUS FIT 3 site inspection. April 12 and May 2, 1989.
NUS FIT 3 Preliminary Assessment TDD No. F3-8810-11, March 22, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	7	Clayton NOVI	present
SURFACE WATER		MI Analytical Resources Incorporated	
WASTE		Chemtech Consulting	
AIR			
RUNOFF			
SPILL			
SOIL	6	Same	present
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU	No readings above background were recorded.
Mini-alert	No readings above background were recorded.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF U.S. EPA
(Name of organization or individual)

03 MAPS ☐ YES ☐ NO

04 LOCATION OF MAPS NUS FIT 3. Site Inspection Report. TDD No. F3-8903-20.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None.

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

NUS FIT 3. Site Inspection. April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
Heidi Gawron	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
3009 Valley Pine Road	

05 CITY	06 STATE	07 ZIP CODE
Schenectady	NY	12303

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER
N/A	

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER
William Schulberger	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
unknown	

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER
N/A	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

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

NUS FIT 3. Site inspection, April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME N/A		02 D+B NUMBER	10 NAME N/A		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME William Schulberger		02 D+B NUMBER	10 NAME N/A		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) unknown		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				

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

NUS FIT 3. Site inspection. April 12 and May 2, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

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

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
PA	2483

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ S. CAPPING/COVERING — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ V. BOTTOM SEALED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ W. GAS CONTROL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ X. FIRE CONTROL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Z. AREA EVACUATED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

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

NUS FIT 3. Preliminary Assessment TDD No. F3-8810-11. March 22, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE PA	02 SITE NUMBER 2483

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

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

NUS FIT 3. Preliminary assessment TDD No. F3-8810-11. March 22, 1989.

SECTION 6

6.0 REFERENCES FOR SECTIONS 1.0 THROUGH 5.0

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2. NUS Corporation, FIT 3. Site inspection; site visit. TDD No. F3-8903-20, April 12, 1989.

3. Schulburger-Miller, Roxanne, Site Owner's Sister, with Ruth Manning, NUS FIT 3. Meeting. November 1, 1988.

4. Noll, David, Bucks County Health Department. Field Activities Report with Sample Analyses. February 17, 1981.

5. Mr. Miller, Neighbor of Site, with Ruth Manning, NUS FIT 3. Meeting. November 1, 1988.

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8. Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey. Groundwater Inventory of Montgomery County, Pennsylvania. August 4, 1983.

9. Pennsylvania Department of Environmental Resources. Title 25 Rules and Regulations, Part 1. Subpart C. Protection of National Resources Article II, Water Resources Chapter 93, Water Quality Standards. October 8, 1979.

10. United States Department of the Interior, Fish and Wildlife Service. Riegelsville, Pennsylvania Quadrangle. National Wetlands Inventory. April 1981.

11. Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey. Physiographic Provinces of Pennsylvania. Map 13, Third Printing. 1979.

12. Subitzky, S., Ed. Late Triassic Newark Group, North Central New Jersey and Adjacent Pennsylvania and New York. In Geology of Selected Areas in New Jersey-Eastern Pennsylvania and Guidebook of Excursions. Field Trip No. 4, 1969.

13. Spencer, E.W. The Appalachian Orogen. In Introduction to the Structure of the Earth. New York: McGraw-Hill Company, Incorporated, 1977.

14. Newport, Thomas G., Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey. Groundwater Resources of Montgomery County, Pennsylvania. Water Resources Report 29, 1971.

15. Greenman, David W., Pennsylvania Department of Internal Affairs, Topographic and Geologic Survey. Groundwater Resources of Bucks County, Pennsylvania. Bulletin W11, 1955.

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17. United States Department of Agriculture, Soil Conservation Service. Soil Survey of Bucks and Philadelphia Counties, Pennsylvania. July 1975.

18. United States Environmental Protection Agency. Uncontrolled Hazardous Waste Site System. Mean Annual Lake Evaporation Map. 1983.

19. United States Department of Commerce. Rainfall Frequency Atlas of the United States. United States Government Printing Office, Washington D.C. Technical Paper No. 40, 1963.

20. United States Department of Commerce. Climatography of the United States. Local Climatological Data. Annual Summary with Comparative Data, Philadelphia, Pennsylvania. 1983.

21. Kulp, Charles J., United States Department of the Interior, Fish and Wildlife Service, to Garth Glenn, NUS FIT 3. Correspondence. December 2, 1988.

SECTION 7

7.0 LABORATORY DATA

7.1 Sample Data Summary

The attached data summary contains only compounds which were identified as detected in at least one sample. The complete list of compounds analyzed for, their results, and the associated detection limits are located as an appendix. Results for tentatively identified compounds appear following the organic data section of this report.

The following codes are used in the data summary to indicate the confidence in the laboratory results:

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

SELECTED SAMPLE ORDER

SITE NAME: nockamixon TWP. RTE 563 SAMPLING DATE(s): 4-12-89 STATE/COUNTY CODE: 42-017
TDD NUMBER: F3-8903-20 CASE NUMBER:11756 EPA NUMBER: PA2483
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURSES INC. CHEMTECH CONSULTING

	SAMPLE NUMBER:	CAR21	CAR22	CP882	CN934	CX870	CX871
	SAMPLE ID:	HW-5	HW-6	HW-1	HW-2	HW-3	HW-4
	LOCATION:	LINDLEY POTABLE NO TREATMENT NO ODOR	DUP OF HW-1	HALL POTABLE PRETREATED NO ODOR	MILLER POTABLE SOFTNER NO ODOR	POTTER POTABLE SOFTNER NO ODOR	ARRIGO POTABLE
	PH:	6.6	7.4	7.4	7.6	6.9	7.2
	FIELD MEASUREMENTS:	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG
	PERCENT SOLIDS:						
TYPE OF DATA:	VOLATILES						
	DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: / UNITS:	CAR21 ug/l	CAR22 ug/l	CP882 ug/l	CN934 ug/l	CX870 ug/l	CX871 ug/l
5.00	methylene chloride						
10.00	acetone						
5.00	1,1-dichloroethene		8.00	8.00			
5.00	total-1,2-dichloroethene		9.00	9.00			
5.00	1,1,1-trichloroethane		26.00	26.00	9.00		
5.00	trichloroethene		160.00	160.00	84.00	9.00 B	
5.00	tetrachloroethene		18.00	18.00	4.00 J		
TYPE OF DATA:	SEMIVOLATILES						
	DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: / UNITS:	CAR21 ug/l	CAR22 ug/l	CP882 ug/l	CN934 ug/l	CX870 ug/l	CX871 ug/l
10.00	pyrene						
10.00	bis(2-ethylhexyl) phthalate					2.00 R	
10.00	chrysene						
TYPE OF DATA:	PESTICIDES						
	DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: / UNITS:	CAR21 ug/l	CAR22 ug/l	CP882 ug/l	CN934 ug/l	CX870 ug/l	CX871 ug/l
1.00	aroclor-1254						

Comments:

data validated by RC

D= result reported from diluted

@=result reported from reanalysis

re-analysis

SELECTED SAMPLE ORDER

SITE NAME: nockamixon TWP. RTE 563 SAMPLING DATE(s): 4-12-89 STATE/COUNTY CODE: 42-017
TDD NUMBER: F3-8903-20 CASE NUMBER:11756 EPA NUMBER: PA2483
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURSES INC. CHEMTECH CONSULTING

SAMPLE NUMBER:	MCAF38	MCAF39	MCBH82	MCY688	MCY686	MCY687
SAMPLE ID:	HW 2	HW-3	HW-1	HW-6	HW-4	HW-5
LOCATION:	MILLER POTABLE SOFTENER NO ODOR	POTTER POTABLE SOFTNER NO ODOR	HALL POTABLE PRETREATED NO ODOR	DUP OF HW-1	ARRIGO POTABLE	LINDLEY POTABLE NO TREATMENT NO ODOR
PH:	7.6	6.9	7.4	7.4	7.2	6.6
FIELD MEASUREMENTS:	NONE > BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG
PERCENT SOLIDS:						
TYPE OF DATA: INORGANICS						
DILUTION FACTOR: : GFAA	1.000	1.000	1.000	1.000	1.000	1.000
: ICP	1.000	1.000	1.000	1.000	1.000	1.000
: Hg	1.000	1.000	1.000	1.000	1.000	1.000
: CN	1.000	1.000	1.000	1.000	1.000	1.000

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: / UNITS:	MCAF38 ug/l	MCAF39 ug/l	MCBH82 ug/l	MCY688 ug/l	MCY686 ug/l	MCY687 ug/l
@ 100.00	aluminum	184.00 B	256.00 B	111.00 B	131.00 B	488.00 B	
@ 2.00	arsenic	3.20					2.20
@ 29.00	barium	41.80		72.10	72.70	115.00	
5.00	cadmium	17.00 B	19.20 B				
@ 770.00	calcium	74500.00		66800.00	69500.00	97600.00	73200.00
@ 8.00	chromium	49.40 B	48.60 B		8.60 B		
@ 22.00	copper	49.60 J	67.30 J	42.50 J		41.80 J	41.70 J
100.00	iron	681.00 B	512.00 B	255.00 B	415.00 B	622.00 B	182.00 B
@ 1.00	lead (anal. by GFAA)	24.40 B	17.10 B	6.00 B	34.80 B	14.70 B	53.30 B
@ 760.00	magnesium	15300.00		15800.00	16500.00	17400.00	13900.00
@ 14.00	manganese				14.10 B		
@ 0.20	mercury	0.30					
@ 27.00	nickel		28.80				
@1060.00	potassium	1200.00		1600.00	1500.00	1900.00	2000.00
@ 10.00	silver					17.70 B	17.70 B
@ 700.00	sodium	18400.00	101000.00	19400.00	18500.00	15500.00	18100.00
@ 17.00	zinc	113.00	24.20	142.00	143.00	483.00	

Comments:

data validated by RC
D= result reported from diluted

@=result reported from reanalysis
re-analysis

SELECTED SAMPLE ORDER

SITE NAME: nockamixon TWP. RTE 563 SAMPLING DATE(s): 4-12-89 STATE/COUNTY CODE: 42-017
TDD NUMBER: F3-8903-20 CASE NUMBER:11756 EPA NUMBER: PA2483
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURSES INC. CHEMTECH CONSULTING

SAMPLE NUMBER:	CAR23	CAR24	CAR26	CAR27	CAR28	CAR29
SAMPLE ID:	SOL-1	SOL-2	SOL-4	SOL-5	SOL-6	AQ-0
LOCATION:	ON-SITE ACESSIBLE NO VEG OIL STAIN	DUP OF SOL-1	ON-SITE ACCESSIBLE STRESS VEG MUDDY	ON-SITE ACCESSIBLE STRESS VEG MUDDY	OFF-SITE BKG ACCESSIBLE STRESS VEG NO ODOR/MUD	AQUEOUS BLANK
PH:	7.8	7.2	7.4	7.4	6.5	7.4
FIELD MEASUREMENTS:	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	
PERCENT SOLIDS:	81.0%	81.0%	75.0%	66.0%	66.0%	
TYPE OF DATA: VOLATILES						
DILUTION FACTOR:	152.0	152.0	160.0	350.0	1.4	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: UNITS:	CAR23 ug/kg	CAR24 ug/kg	CAR26 ug/kg	CAR27 ug/kg	CAR28 ug/kg	CAR29 ug/l
5.00	methylene chloride	160.00 B	460.00 B	620.00 B	660.00 B	3.00 B	
10.00	acetone	280.00 B		620.00 B	800.00 B	4.00 B	
5.00	1,1-dichloroethene						
5.00	total-1,2-dichloroethene						
5.00	1,1,1-trichloroethane	280.00J@	300.00 J	2800.00 D	2600.00		
5.00	trichloroethene	2100.00	2200.00	8600.00	7800.00		
5.00	tetrachloroethene	22000.00 @	25000.00	44000.00 D	43000.00		
TYPE OF DATA:	SEMIVOLATILES						
	DILUTION FACTOR:	1300.0	1400.0	280.0	260.0	39.0	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: UNITS:	CAR23 ug/kg	CAR24 ug/kg	CAR26 ug/kg	CAR27 ug/kg	CAR28 ug/kg	CAR29 ug/l
10.00	pyrene	3200.00 J	1500.00 J				
10.00	bis(2-ethylhexyl) phthalate	27000.00	26000.00	430.00 B	270.00 B		
10.00	chrysene			610.00J	470.00J		
TYPE OF DATA:	PESTICIDES						
	DILUTION FACTOR:	310.0	310.0	280.0	250.0	190.0	1.0

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: UNITS:	CAR23 ug/kg	CAR24 ug/kg	CAR26 ug/kg	CAR27 ug/kg	CAR28 ug/kg	CAR29 ug/l
1.00	aroclor-1254	5200.00	5200.00				

Comments:
data validated by RC
D= result reported from diluted
@=result reported from reanalysis
re-analysis

SELECTED SAMPLE ORDER

SITE NAME: nockamixon TWP. RTE 563
TDD NUMBER: F3-8903-20
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURSES INC. CHEMTECH CONSULTING

SAMPLING DATE(s): 4-12-89
CASE NUMBER:11756

STATE/COUNTY CODE: 42-017
EPA NUMBER: PA2483

SAMPLE NUMBER: MCY694
SAMPLE ID: AQ-O
LOCATION: AQUEOUS BLANK

PH: 7.4
FIELD MEASUREMENTS:
PERCENT SOLIDS:
TYPE OF DATA: INORGANICS
DILUTION FACTOR: : GFAA 1.000
: ICP 1.000
: Hg 1.000
: CN 1.000

DET. LIMIT CRQL (@=IDL)		SAMPLE NUMBER: UNITS:	MCY694 ug/l
@ 100.00	aluminum		105.00
@ 2.00	arsenic		
@ 29.00	barium		
5.00	cadmium		10.80 J
@ 770.00	calcium		
@ 8.00	chromium		11.20 J
@ 22.00	copper		
100.00	iron		346.00
@ 1.00	lead (anal. by GFAA)		12.80
@ 760.00	magnesium		
@ 14.00	manganese		23.30
@ 0.20	mercury		
@ 27.00	nickel		
@1060.00	potassium		
@ 10.00	silver		19.20 J
@ 700.00	sodium		
@ 17.00	zinc		

SELECTED SAMPLE ORDER

SITE NAME: nockamixon TWP. RTE 563 SAMPLING DATE(s): 4-12-89 STATE/COUNTY CODE: 42-017
TDD NUMBER: F3-8903-20 CASE NUMBER:11756 EPA NUMBER: PA2483
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURSES INC. CHEMTECH CONSULTING

	SAMPLE NUMBER:	MCY689	MCY690	MCY691	MCY692	MCY693
	SAMPLE ID:	SOL-1	SOL-2	SOL-5	SOL-4	SOL-6
	LOCATION:	ON-SITE ACCESSIBLE NO VEG OIL STAIN	DUP OF SOL-1	on site access stress veg. muddy	ON-SITE ACCESSIBLE STRESS VEG MUDDY	OFF-SITE BKG ACCESSIBLE STRESS VEG NO ODOR/MUD
	PH:	7.8	7.2	7.4	7.4	6.5
	FIELD MEASUREMENTS:	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG
	PERCENT SOLIDS:	81.0%	84.3%	80.3%	80.0%	66.0%
TYPE OF DATA:	INORGANICS					
	DILUTION FACTOR: : GFAA	0.250	0.230	0.250	0.250	0.300
	: ICP	0.250	0.230	0.250	0.250	0.300
	: Hg	1.200	1.200	0.120	0.120	1.500
	: CN	0.060	0.060	0.060	0.060	0.075

DET. LIMIT CRQL (@=IDL)	SAMPLE NUMBER: / UNITS:	MCY689 mg/kg	MCY690 mg/kg	MCY691 mg/kg	MCY692 mg/kg	MCY693 mg/kg
@ 27.00	aluminum	28600.00	27900.00	26700.00	25500.00	21000.00
@ 2.20	arsenic	13.70	14.10	15.80	12.10	8.60
@ 26.20	barium	76.20	131.00	43.30	46.60	51.70
@ 1.50	beryllium	1.70	1.50	1.30	1.30	1.80
@ 4.00	cadmium		1.80			
@ 90.00	calcium	519.00	332.00	372.00	352.00	655.00
@ 4.60	chromium	58.00 J	161.00 J	48.60 J	51.30 J	44.00 J
@ 7.60	cobalt	14.20	14.70	19.40	17.30	14.90
@ 2.90	copper	95.00 J	538.00 J	14.90 J	13.60 B	5.70 B
@ 10.70	iron	36500.00	43800.00	39900.00	42400.00	42900.00
@ 1.20	lead (anal. by GFAA)	65.70	75.40 J	12.40 J	12.50 J	298.00 J
@ 138.00	magnesium	9560.00	9270.00	10200.00	9110.00	8040.00
@ 3.30	manganese	326.00 J	365.00	631.00	602.00	729.00
@ 17.80	nickel	33.00	40.00	30.20	28.10	27.40
@ 472.00	potassium	605.00 J	291.00 J	633.00 J	264.00 J	
@ 3.40	selenium			1.80		1.10
@ 187.00	sodium	77.20	71.60	80.00	68.50	58.80
@ 4.90	vanadium	76.10	69.50	73.80	87.50	88.00
@ 2.80	zinc	185.00 J	404.00 J	76.00 J	78.40 J	96.40 J
@ 10.00	cyanide	1.70				

7.2 Quality Assurance Review

7.2.1 Organic Data: Lab Case 11756

7.2.1.1 Introduction

Five solid and six aqueous samples were analyzed for acid, base-neutral, and pesticide/polychlorinated biphenyl (PCB) compounds through the EPA Contract Laboratory Program (CLP). Included in the sample set were two field duplicate pairs and one field blank. One aqueous trip blank accompanied the sample set and was analyzed only for volatile organic compounds. The two matrices were analyzed by separate laboratories.

The data have been fully reviewed to determine the usability of results according to the National and Regional Guidelines. (Areas examined in detail are listed in the Support Documentation appendix.) Data quality was acceptable for most compounds, with detection limit capability demonstrated by meeting criteria for holding times, surrogate and matrix spike recoveries, and instrument tuning and calibration. Blank contamination affected low levels of common volatile and semivolatile compounds. There were no serious quality assurance problems.

Principal areas of concern include blank contamination, possible carryover for the volatile analyses of two samples, and a few low semivolatile surrogate recoveries.

7.2.1.2 Qualifiers

- The laboratory analyzed the volatile fractions of solid samples CAR23, CAR24, CAR26, and CAR27 according to the medium-level protocol. The levels of trichloroethene and tetrachloroethene present in these samples were too high to be analyzed by the routine low-level procedure.

- The laboratory performed the matrix spike/matrix spike duplicate (MS/MSD) analyses on sample CAR23, yielding a total of three analyses for this sample. The volatile analysis of sample CAR26 was also run at a two-fold dilution; both the initial and diluted analyses were supplied in the data package. The reviewer evaluated each of the multiple runs and reported those results considered to be the most reliable for each compound detected. The following table lists each compound, the result reported, and the criterion behind each decision.

Sample Number	Compound Reported	Analysis	Result Reported	Decision Criterion
CAR23	methylene chloride	initial	160 ug/kg	1
CAR23	acetone	initial	280 ug/kg	1
CAR23	1,1,1-trichloroethane	MSD	280 ug/kg	2
CAR23	trichloroethene	initial	2100 ug/kg	3
CAR23	tetrachloroethene	MSD	22,000 ug/kg	4
CAR26	methylene chloride	initial	620 ug/kg	1
CAR26	acetone	initial	620 ug/kg	1
CAR26	1,1,1-trichloroethane	dilution	2,800 ug/kg	5
CAR26	trichloroethene	initial	8,600 ug/kg	5
CAR26	tetrachloroethene	dilution	44,000 ug/kg	6

Note: MSD = matrix spike duplicate analysis.

Decision Criteria:

1. All results for this common laboratory contaminant are questioned by the blanks. The lowest results have been reported.

2. All three results for this compound were below the calibration range of the instrument. The highest result was reported. (All 3 results were within 15 percent of each other.)

3. This compound is a matrix spike compound; therefore, the indigenous levels in the spiked analyses cannot be accurately determined. The initial result from the unspiked analysis has been reported. (However, the total concentration of trichloroethene in the spiked analyses was significantly higher than the amount added. This would indicate that this compound was indeed present in the sample aliquots prior to matrix spiking.)

4. All three results were within the calibration range of the instrument and displayed very good precision. The highest result has been reported.

5. Both results were within the calibration range of the instrument. The highest result was reported.

6. The initial, undiluted result exceeded the calibration range of the instrument. The diluted result was within the calibration range and was therefore reported.

- All results for methylene chloride and acetone have been flagged as undetected due to blank contamination (B), except for methylene chloride in the field blank (sample CW137). The results for these common laboratory contaminants were not significantly higher in the samples than in all associated blanks.

- The results for bis (2-ethylhexyl) phthalate have been flagged (B) in samples CAR26 and CAR27. The instrument levels of this common contaminant in these two samples were not much higher than the blank levels. The results for this compound in solid samples CAR23 and CAR24 (which represent field duplicates) were approximately 70 times the blank value and therefore not flagged.

- The result for trichloroethene has been flagged as undetected (B) in aqueous sample CX870. This sample was run immediately following sample CP882, which contained 160 ug/l of this compound. In addition, 4 ug/l of this compound was tentatively identified in sample CAR29, the field blank. This sample was analyzed right after CAR22, which also contained 160 ug/l of trichloroethene. Because sample carryover may be occurring in both instances, the result in sample CX870 has been considered undetected. Further information may be required to establish whether or not this compound is actually present in this home well.

- The result for bis(2-ethylhexyl) phthalate has been flagged as unreliable (R) in aqueous sample CX870. This common laboratory contaminant has been detected in over half of all cases analyzed by this laboratory at levels up to 1.0 ug/l, which would cause the result for this sample to be questioned by the blank. Further information may be necessary to confirm its presence.

- The detection limit for 4-nitrophenol may be slightly higher than reported in all aqueous samples. The MS/MSD recoveries for this compound were slightly low for aqueous sample CN934.

- The acid surrogate recoveries in solid sample CAR27 were lower (as a group) than the recoveries for all other samples. This may suggest that detection limits for acid-extractable compounds (phenolic compounds) may be slightly higher than reported for this sample.

- The results for Aroclor 1254 are considered confident in field duplicate samples CAR23 and CAR24. The peak patterns in both samples matched very well with the standards in terms of retention time and area ratios. The numerical results were also confirmed by the reviewer in both samples. Excellent field duplicate precision was noted for these results; in fact, nearly all analytical results not considered artifacts displayed very good precision between both samples.

- Sample results that are below the calibration range of the instrument have been flagged as estimated (J), where no other flag exists.

- Tentatively identified compounds that are not considered to be laboratory artifacts are summarized immediately following this report.

7.2.1.3 Support Data

The Support Documentation appendix to this report documents the above findings associated with blank contamination, low surrogate and matrix spike recoveries, carryover of some volatile compounds, and information relating to the multiple analyses of two samples for volatile compounds. (Issues pertaining to laboratory contractual compliance are found on a separate summary directed to the laboratory deputy project officer.)

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SAMPLE DATA SUMMARY : TENTATIVELY IDENTIFIED COMPOUNDS

Sample number	Anal. fract. VOA/BNA	estimated concentrat. value	units	qualifier code	compound name
					There were NO TICs for aqueous samples: CAR21, CAR22, CN934, CX870, CX871 and CP882
CAR23	VOA	5300	ug/kg	TOT(6)/UNK	unsaturated HC of unknown substitution
		1700		UNK/TOT(6)	poss aromatic hydrocarbon
		970			Satd HC
	BNA	22,000		ISO	$C_{14}H_{22}O$ - 1,3,4,5 tetramethylphenol
		220,000		UNK/TOT(7)	unknown aromatics - poss. sub. phenols
		255,000		TOT(4)	Satd HC
		450,000		TOT/UNK	unsaturated HC of unknown substitution (1)
		280,000		TOT(7)/UNK	unknowns
CAR24	VOA	920	ug/kg		Satd HC
	"	5500		TOT(6)/UNK	unsaturated HC of unknown subst.
	BNA	33000		TOT(2)/ISO	tetramethyl phenol
		64000			phthalate
		72000		UNK	aromatic, poss. substituted phenol
		17000		UNK	poss aromatic
		750,000		TOT(6)/UNK	unsaturated HC of unknown substitution
		76,000		TOT(2)	Satd HC
CAR26	VOA	2000	ug/kg	TOT	Satd HC
		4500		ISO	C_9H_{18} - trimethyl cyclohexane
		8800		TOT(2)/UNK	unknown - poss cyclic
		15000		TOT(6)/UNK	unsaturated HC of unknown substitution
	BNA	35000		TOT(4)	Satd HC
	"	105000		TOT(8)/UNK	unsaturated HC of unkn. substit.
CAR27	VOA	10000	ug/kg	TOT(3)/ISO	C_9H_{18} - trimethylcyclohexane
		13200			Satd HC
		2900		UNK	possibly cyclic HC
	BNA	15000		TOT(3)	Satd HC
	"	82,000		UNK/TOT(8)	unsaturated HC of unknown substit.
CAR28	VOA	18	ug/kg		2,5-dimethyl-3-methylene-1,5 hexadiene C_9H_{14}
		735		TOT(3)/ISO	$C_{10}H_{16}$ alpha-pinene
	BNA	17,500		TOT(8)/UNK	unsaturated HC of unknown subst.
	"	1400		UNK	poss substituted cyclic HC

definitions of qualifier codes:

SUS = suspected false positive result: compound is either a common lab contaminant or else a possible reaction byproduct (artifact) attributable to the chemical reagents used for sample preparation and analysis. This result is suspect even though this compound was not found in any associated blanks.

UNK = unknown compound : library search result unreasonable or of very low matching quality.

TOT = Total concentration reported : represents the sum of several compounds detected all belonging to the same chemical class.

ISO = isomer: compound identification is not selective for this isomer only. This result may instead represent the presence of a similar compound comprised of the same atoms bonded together in a different arrangement or substitution pattern.

7.2.2 Inorganic Data: Lab Case 11756

7.2.2.1 Summary

Five solid samples and seven unfiltered aqueous samples were analyzed for total metals and cyanide through the EPA CLP under case 11756. Included in the sample set were two duplicate pairs and one field blank. Each matrix was analyzed by a different laboratory. The field blank results were applied only to aqueous samples; no field blank accompanied the solid samples.

The data have been fully reviewed to determine the usability of results according to the National and Regional Guidelines. (Areas examined in detail are listed in the Support Documentation appendix.) Data quality was good for most metals and for cyanide. Detection limit capability was demonstrated for most analytes by meeting criteria for holding times, spike recoveries, calibration check standards, low-level standards, and linear range analyses. There were some quality control problems that affected several results, however.

Areas of concern include blank contamination, serial dilution imprecision for one metal, low two-times contract required detection limit (CRDL) standard recoveries for three metals, and low matrix and post-digestion spike recoveries for several metals.

7.2.2.2 Qualifiers

- Several metals were detected in the laboratory and field blanks for both matrices. However, only aqueous results were low enough to be considered undetected due to blank contamination (except for two solid copper results). Specifically, all aqueous results for aluminum, chromium, iron, lead, manganese, and silver have been flagged (B) on the data summary except the results for the field blank, sample MCY694. In addition, copper in samples MCY692 and MCY693 has been flagged (B).

- Detection limits for cadmium may be considered unreliable in aqueous samples MCBH82 and MCY686 through MCY688. The initial aqueous two-times CRDL standard recovery was high, and the final recovery was low. This suggests instrument instability at low levels and that the actual instrument detection limit may be as high as 25 ug/l. Even though flagged (B), results for this metal may be imprecise in samples MCAF38 and MCAF39. The result for the field blank, MCY694, has been flagged (J).

- The final two-times CRDL standard recovery was low for chromium in the aqueous analysis. Detection limits may be higher than reported in aqueous samples MCBH82, MCY686, and MCY687. The direction of bias for the positive results for samples MCAF38, MCAF39, and MCY688 cannot be determined because the extent of blank contamination is not known. These results have already been flagged as a result of blank contamination, however. The result for the field blank, MCY694, has been flagged (J) and may be higher or lower than reported.

- Both aqueous two-times CRDL standard recoveries for silver were less than the negative of the instrument detection limit. Detection limits for this metal may be higher than reported in samples MCAF38, MCAF39, MCBH82, and MCY688. Even though already flagged (B), results for this metal may be higher or lower than reported in samples MCY686 and MCY687, and the result for the field blank, MCY694, has been flagged (J), estimated. A 29 percent matrix spike recovery for silver in aqueous sample MCAF38 corroborates the conclusions regarding detection limits. The direction of bias for results flagged (B) cannot be determined for these results because of the unknown extent of blank contamination.

- The reviewer changed the result for lead on the data summary for sample MCBH82. This sample was analyzed twice because of duplicate burn imprecision. The laboratory reported the result with the lower coefficient of variation and the lower post-digestion spike recovery. The result reported by the reviewer, 6.0 ug/l, exhibited a much better post-digestion spike recovery, and the duplicate burn precision was not much worse than the other analysis (35 percent relative standard deviation versus 34.5 percent).

- All aqueous results for copper have been flagged as estimated (J) on the data summary. The serial dilution result was substantially higher than the initial result in sample MCY686. High levels of some minerals may have suppressed the instrument response to this metal in the initial analyses of the aqueous samples. In addition, field duplicate imprecision was observed for this metal between aqueous samples MCBH82 and MCY688.

- Matrix spike recoveries for antimony and silver were very low (zero for silver) for solid sample MCY689. Detection limits may be much higher than reported in all solid samples and may be the result of sample digestion losses.

- The result for manganese has been flagged as estimated (J) in sample MCY689. The matrix spike data for this sample indicate that substantial sample inhomogeneity exists for this analysis, and the laboratory duplicate also exhibited a similar degree of inhomogeneity.

- Poor agreement was seen between furnace and plasma results for lead for solid samples MCY690 through MCY693. The plasma results were substantially higher in samples MCY690, MCY691, and MCY692, and the furnace result was higher for sample MCY693, as illustrated by the following chart.

Sample Number	Plasma Lead Result	Furnace Result
MCY690	544 mg/kg	75.4 mg/kg
MCY691	58 mg/kg	12.4 mg/kg
MCY692	59 mg/kg	12.5 mg/kg
MCY693	111 mg/kg	298 mg/kg

- In addition, the plasma results for the field duplicate samples MCY689 and MCY690 exhibited marked imprecision for lead (98 mg/kg and 544 mg/kg, respectively). Because of these observations, all solid lead results have been flagged as estimated (J), and further information would be needed to determine the precise concentrations of lead at these sampling locations.

- Field duplicate imprecision was observed for chromium, copper, potassium, and zinc between solid samples MCY689 and MCY690. Results for these analytes have been flagged as imprecise in all solid samples where they occur and are not previously flagged.

7.2.2.3 Support Data

The Support Documentation appendix to this report documents the above findings associated with blank contamination, low pre-digestion spike recoveries, low two-times CRDL standard recoveries, the changing of one lead result, and serial dilution imprecision. This report has been formatted to address those issues directly affecting the application of the data to the subject investigation. (Issues pertaining to laboratory contractual compliance are addressed on a separate form directed to the laboratory deputy project officer.)

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SECTION 8

8.0 TOXICOLOGICAL EVALUATION

8.1 Summary

Of primary concern at the Nockamixon site is the presence of notable levels of several volatile organics, including tetrachloroethene (PCE) and trichloroethene (TCE), in on-site soils and residential wells. Exposures to reported levels of solvents in soils are not expected to adversely impact human health. However, long-term ingestion of untreated groundwater from the Hall and Miller wells may result in increased lifetime cancer risks of 7.6×10^{-5} and 3.3×10^{-5}, respectively. No noncarcinogenic effects are anticipated at the reported solvent concentrations as a result of ingestion of groundwater.

Arsenic was also reported in well samples collected from the Hall and Lindley residences. Although the reported concentrations were within the enforceable Maximum Contaminant Level (MCL) of 50 ug/l, they exceed the proposed Maximum Contaminant Level Goal (MCLG) of 0 ug/l recommended for carcinogens. Consumption of two liters per day of untreated water from the Hall and Lindley wells may result in respective increased cancer risks of 1.6×10^{-4} and 1.1×10^{-4}. No noncarcinogenic risks are anticipated at the reported arsenic levels.

Additional contaminants of note in on-site soils include polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB), substituted phenols, and hydrocarbons. Considering current site conditions, notable health effects are not expected at the reported concentrations.

8.2 Support Data

8.2.1 Organics

Organic analysis of samples collected on and around the subject site revealed significant levels of the halogenated hydrocarbons 1,1,1-trichloroethane (1,1,1-TCEA), TCE, and PCE in surface soil and nearby residential wells. Trace levels (less than 10 ppb) of the TCE and PCE breakdown products, 1,1-dichloroethene (1,1-DCE) and 1,2-dichloroethene (1,2-DCE), were also detected in residential well samples. As a result of their extensive use as industrial solvents, such compounds have been detected in almost all environmental media. Once released to the environment, volatilization and subsequent chemical degradation tend to be the predominant fate processes. Releases of volatile organic compounds (VOCs) to surface soil, air, and surface water evaporate and degrade in a matter of days or weeks. However, solvents in subsurface soils and groundwater are not subject to significant volatilization and may persist for months or years. In addition, VOCs are generally water soluble, have poor sorbtive properties, and are relatively mobile in aquatic systems. Therefore, solvents released to soils readily migrate to groundwater.[1] Note that, although there were no on-site monitoring wells from which to obtain on-site groundwater samples, residential wells south of the site revealed organic contamination similar to that observed in site soil samples. As discussed in section 3.3.3, groundwater from the site is expected to flow to the south-southwest, toward Haycock Creek.

The major physiologic responses to high concentrations of halogenated solvents include central nervous system depression and eye, nose, and throat irritation. Liver and kidney damage have also been associated with exposure to the more toxic solvents.[2] Of the compounds detected at the Nockamixon site, TCE and PCE have been classified as a probable (Group B2) human carcinogens, based on a combination of sufficient evidence in animals and inadequate data in humans. 1,1-DCE has been classified as a Group C compound, based on limited evidence of carcinogenicity in animals only, and 1,2-DCE and 1,1,1-TCEA have been classified as Group D compounds, due to insufficient evidence of carcinogenicity. Only Group A and Group B compounds are regulated as human carcinogens by EPA.[3]

In general, human exposure to solvents in the environment may occur via direct contact with wastes or contaminated materials, inhalation of vapors released to the air, and ingestion of contaminated substances, such as soil and groundwater. At the Nockamixon site, no adverse health effects are anticipated as a result of exposures via direct contact, inhalation of vapors, or ingestion of soil. As previously discussed, solvents present in surface soil and air are subject to volatilization and are not expected to persist at the ground surface. In addition, although direct contact with high concentrations of solvents has been associated with dermatitis, dermal absorption of solvents as liquids or vapors has not been found to be a significant exposure route. Repeated and prolonged exposure via inadvertent ingestion of significant amounts of soil is unlikely to occur considering the site's rural location and inactive status. If inadvertent ingestion of soils were to occur, volatile organics are not known to bioaccumulate to a significant degree and adverse health effects are not anticipated.[4] Ingestion of contaminated groundwater, however, may pose a threat to human health because groundwater is the sole source of potable water in the study area.

Samples collected from the Hall and Miller domestic wells revealed concentrations of PCE (18 ug/l), TCE (up to 160 ug/l), and 1,1-DCE (8 ug/l) that exceed current MCLs and MCLGs. MCLs are enforceable standards for finished water from public supply systems. They are based on health considerations but also take into account the feasibility and cost of available treatment technologies. MCLs for PCE, TCE, and 1,1-DCE are 5 ug/l, 5 ug/l, and 7 ug/l, respectively. MCLGs are non-enforceable standards based solely on human health concerns. They are set in order to prevent the occurrence of any known or anticipated adverse effects and to include an adequate margin of safety. In the case of known or probable carcinogens, MCLGs are set at the zero levels. MCLGs for PCE and TCE are both 0 ug/l; the MCLG for 1,1-DCE is 7 ug/l. Note that concentrations of 1,2-DCE and 1,1,1-TCEA are below respective MCLs (and MCLGs) of 70 ug/l and 200 ug/l.[5,6]

The TCE and PCE concentrations reported in the Hall and Miller wells may result in respective cumulative increased cancer risks of 7.6 X 10^{-5} and 3.3 X 10^{-5}, or about 1 in 13,158 and 1 in 30,303 people so exposed.[7] These unit cancer risks are based on consumption of 2 liters of water per day over a 70-year lifetime by a 70-kilogram adult. Other sources of exposure, such as inhalation of vapors, have not been included in the calculations and may increase overall risk. It is notable that treatment systems such as the carbon filter in the Hall residence may significantly reduce the level of volatile organic contaminants present in drinking water.

Long-term noncarcinogenic effects are not anticipated as a result of consumption of water from either well. Estimated daily intake levels of 1,1-DCE and 1,1,1-PCE are below Drinking Water Equivalent Levels (DWELs) of 400 ug/l and 500 ug/l and the recommended treatment/removal action levels of 200 ug/l and 250 ug/l. DWELs are drinking-water-specific endpoints of toxicity over a lifetime, assuming consumption of two liters of water per day.[6,8] Consumption of untreated water from the Hall well, at a TCE concentration of 160 ug/l, may result in average intake levels that slightly exceed the DWEL of 300 ug/l and the recommended treatment/removal action level of 150 ug/l. However, such exposure levels are not expected to result in adverse health effects in and of themselves, because the DWEL for TCE includes a safety factor of 1,000.[1]

In addition to halogenated solvents, on-site soil samples collected from the stained and buried areas also revealed notable levels of pyrene (up to 3,200 ug/kg) and the B2 carcinogen chrysene (up to 610 ug/kg). PAHs including pyrene and chrysene are formed during organic combustion processes such as oil, wood, and refuse burning. These compounds are strongly adsorbed to particulates and are found at the greatest concentrations in soils and sediments.[9] PAHs are commonly occurring contaminants; total PAH levels in unpolluted soils have been reported to be as great as 13,000 ug/kg.[10] Dermal exposure to high concentrations of PAHs has been associated with dermatitis, and contact with such levels should be avoided.[9] Because PAHs do not bioaccumulate, adverse health effects are not expected in the unlikely event of occasional and accidental ingestion of soil.[4] Also, as PAHs are usually particulate bound and relatively immobile in aquatic systems, significant leaching to groundwater is not anticipated. PAHs were not detected in any residential well samples.

Bis(2-ethylhexyl) phthalate (DEHP) was also detected in soil samples collected from the visibly stained area. Phthalate esters are plasticizers used in most major product categories and are detected as contaminants in many ecosystems. Humans may be exposed to phthalate esters via an extremely large number of consumer products including vinyl furnishings, packaging materials used in the production of food and beverages, and medical devices such as tubing and blood bags.[11] DEHP has been reported to produce increased incidences of hepatocellular carcinomas in laboratory animals and is regulated as a carcinogen by EPA. Although some organisms bioaccumulate DEHP, biodegradation is also considered to be an important fate process in aquatic systems and soil.[4] Dermal contact with high concentrations of DEHP may produce mild skin and eye irritation; however, repeated and prolonged exposure to high concentrations of DEHP is not anticipated at the subject site.[11] Occasional contact with the reported on-site concentrations is not expected to produce notable health effects.

Aroclor 1254, a PCB, was also detected in soil samples at a concentration of 5,200 ppb. Although EPA considers any release of PCBs an environmental concern, reported on-site levels are well within action levels of 25 ppm and 10 ppm for restricted-access and residential areas, respectively.[12] Dermal exposure to high concentrations of PCBs has been linked to dermatitis and chloracne; however, no measurable health effects are expected at the reported on-site concentrations.[13] Because PCBs are classified as carcinogens, any chronic intake may result in an increased risk of cancer. Considering a worst-case scenario, ingestion of 100 mg per day of soil over a 70-year lifetime by a 70-kilogram adult may result in an increased cancer risk of 5.85×10^{-5}, or about 1 case for every 17,904 people so exposed.[7] Current site conditions indicate that prolonged ingestion of significant amounts of soil is unlikely to occur. Like PAHs, PCBs are strongly adsorbed to soil and sediment and do not generally pose a threat to groundwater. Unlike PAHs, PCBs bioaccumulate to high concentrations in animal tissue and may represent an environmental threat if transported to Haycock Creek, located approximately 3/4 mile southwest of the site.[13] Further investigation would be required to adequately assess such concerns.

Several semivolatile organic compounds, including substituted phenols, hydrocarbons, and unknowns, were tentatively identified in site soil samples. Substituted phenols, such as tetramethyl phenol, were detected at total concentrations up to 242,000 ug/kg. Direct contact with phenols is not anticipated to result in adverse health impacts at the reported concentrations. Note that a number of nonprescription medicines containing up to 2.5 percent phenol have been approved for skin application. Phenols tend to be soluble in water and may enter groundwater; however, these compounds were not detected in any residential well samples.[14] In addition, phenols do not bioaccumulate, and no health effects are anticipated due to inadvertent ingestion of soil.[4] Aromatic, saturated (alkanes) and unsaturated hydrocarbons were detected at total concentration of up to 844,840 ug/kg; unknowns were detected at total concentrations up to 280,000 ug/kg. Further analysis and investigation would be required to confidently identify compounds of concern and adequately address associated health effects.

8.2.2 Inorganics

Inorganic contaminant levels in residential well samples were within MCLs for drinking water. However, as a known carcinogen, arsenic concentrations observed in the Hall (3.2 ug/l) and Lindley (2.2 ug/l) wells exceed the proposed MCLG of zero but fall within the currently enforceable MCl of 50 ug/l.[6] Consumption of 2 liters per day for 70 years may result in respective increased cancer risks of 1.6 X 10^{-4} and 1.1 X 10^{-4}, or about 1 in 6,250 and 1 in 9,091 people so exposed.[7] One of the most characteristic effects of chronic exposure to high levels of arsenic is a pattern of skin disorders, beginning with hyperpigmentation and keratosis and developing in some cases into carcinoma. The classification of arsenic as a carcinogen is based on drinking water studies performed in Taiwan; however, it is interesting to note that a number of studies in the United States have failed to detect an association between elevated arsenic levels in drinking water and skin cancer. There is also evidence suggesting that trace levels of arsenic may be nutritionally beneficial.[15] No noncarcinogenic effects are anticipated at the reported arsenic concentrations.

Mercury was also reported at a concentration of 0.30 ug/l in the Hall well. This level is within both the MCL and MCLG of 2 ug/l and is not considered a health hazard.[6]

Inorganic analysis of site soil samples generally revealed little to warrant concern. All reported metals values were within ranges typically observed in soils in the eastern United States.[16]

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APPENDIX A

PROJECT NAME: Hackamungon Trip
TDD NO.: F3-8903-20

EPA SITE NO.: PA 2483
REGION: III

SUPPORT DOCUMENTATION FOR THE REVIEW OF ORGANIC ANALYSIS LAB DATA PACKAGE

CASE/SAS NO.: 11756
TYPE OF ANALYSIS: organic
CONTRACT LABORATORY: Clayton
APPLICABLE IFB OR SOW: 1187
REVIEWER: R. Cohen
REVIEW DATE: 9/21/89

APPLICABLE SAMPLE NO's.: Aqueous: CAR21, 27, 29, 34, CP882, CX870, CX871, CN934

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL (CHECK (✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW)				PROBLEM AREAS IDENTIFIED (CHECK (✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW)				SUPPORT DOCUMENTATION ATTACHMENTS (CHECK (✓) IF YES OR IDENTIFY ATTACHMENT NO.)			
	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB
HOLDING TIMES	✓											
BLANK ANALYSIS RESULTS: TARGET COMPOUNDS	✓											
BLANK ANALYSIS RESULTS: TENTATIVE I.D.s	✓											
SURROGATE SPIKE RESULTS	✓											
MATRIX SPIKE RESULTS	✓											
DUPLICATE ANALYSIS RESULTS	✓											
TARGET COMPOUND MATCHING QUALITY	✓											
TENTATIVELY IDENTIFIED COMPOUNDs	✓											
DFTPP & BFB SPECTRUM TUNE RESULTS	✓											
GC INSTRUMENT PERFORMANCE	✓											
INITIAL CALIBRATIONS	✓											
CONTINUING CALIBRATIONS	✓											
QUANTITATION OF RESULTS	✓											
OTHERS	✓											

COMMENTS:

BLANK ANALYSIS RESULTS FOR TARGET COMPOUNDS

FRACTION	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMIT)
VOA	low level aqueous lab blk			VBlkE1 4/13/99	lab	5.7 $MeCl_2$ 2.6 ug/l (2 6.5 acetone 7.0 ug/l (2
VOA	low aq lab blk			VBlkE2 4/14/99	lab	6.5 $MeCl_2$ 5.0 ug/l acetone 6.5 ug/l (2
VOA	low aq field blk			CAR29 4/13/99	NUS	5.7 $MeCl_2$ 3.2 ug/l (2) 6.5 acetone 5.8 ug/l (2) 19.2 TCE 3.8 ug/l (2)*
BNA	low aq lab blk			SBlkW1	lab	none detected
BNA	low aq field blk			CAR29	NUS	none detected
PESI	lab + field blks				lab NUS	none detected

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHIN T
SAMPLE ANALYTICAL DATA SUMMARY. TENTATIVELY IDENTIFIED COMPOUNDS IN BLANKS ARE LISTED ON A SEPARATE F

COMMENTS:

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM QUANTITATION LIST, DIAGNOSTICS, CHROMATOGRAM AND/OR SPECTRA.

* CAR29 was run immediately following CAR22, which contained 150 ug/l of TCE. ∴ probable TCE carryover from CAR22 to CAR29 - (2½%). TCE value was used to qualifiers sample results, however (only sample CAR20)

Case 11.1.6

4Q

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

ALL TENTATIVELY IDENTIFIED COMPOUNDS FOUND IN BLANK ANALYSES ARE LISTED BELOW:

SAMPLE #	FRACTION	SCAN #(S) OR R.T	ESTIMATED CONCENTRATION	COMPOUND NAME	COMMENTS
VBLK1	VOA	-	-	none detected	
VBCH2	VOA	-	-	ND	
CAR24	VOA	≈ 26.7m.	6% ES@ 29.6 mm	NLS	
SBLK1	BNA	7.4min	4% ES@ 11.7 min	NLS	
"	"	20.76mm	2% ES@ 23.8min	NLS	
CAR29	BNA	7.2min	5% ES@ 11.5min	NLS	
"	"	40.3	2% ES@ 40.7min	NLS	

NLS = no library search conducted

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix Spike - EPA Sample No.: CN934

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	52.4	105	61-145
Trichloroethene	50.0	83.9	125	82	71-120
Benzene	50.0	0	50.3	101	76-127
Toluene	50.0	0	51.2	102	76-125
Chlorobenzene	50.0	0	66.7	133 *	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	50.3	101	4	14	61-145
Trichloroethene	50.0	117	66 *	22 *	14	71-120
Benzene	50.0	52.0	104	-3	11	76-127
Toluene	50.0	53.4	107	-5	13	76-125
Chlorobenzene	50.0	68.8	138 *	-4	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 3 out of 10 outside limits

COMMENTS: 125-50 = 75 RPD (75,84) = 11%
117-50 = 67 RPD (84,67) = 22%

Low recovery due to sample variation in TCE conc.

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	CAR21	96	97	86		0
02	CAR22	97	96	93		0
03	CAR29	110	107	98		0
04	CN934	104	100	95		0
05	CP882	106	103	99		0
06	CX870	109	107	103		0
07	CX871	93	89	87		0
08	CN934MS	102	99	95		0
09	CN934MSD	106	103	98		0
10	VBLKE1	89	86	80		0
11	VBLKE2	96	92	89		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

11756 • 3-103-02

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Lab File ID: E5606 BFB Injection Date: 04/13/89

Instrument ID: 5E BFB Injection Time: 1339

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.4
75	30.0 - 60.0% of mass 95	44.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	1.0 (1.3)1
174	Greater than 50.0% of mass 95	75.0
175	5.0 - 9.0% of mass 174	5.4 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	74.6 (99.4)1
177	5.0 - 9.0% of mass 176	4.6 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050		E5607	04/13/89	1429
02	VBLKE1	VBLKE1	E5608	04/13/89	1621
03	CAR21	725065	E5611	04/13/89	2007
04	CAR22	725067	E5612	04/13/89	2057
05	CAR29 (FBLK)	725069	E5613	04/13/89	2146
06	CP882	725075	E5614	04/13/89	2235
07	CX870	725077	E5615	04/13/89	2324

(60ug/l TCE — 04; 4 ug/l TCE — 05; 160 ug/l TCE — 06; 9 ug/l TCE — 07)

Same phenomenon may be occurring in CX870 as occurred in CAR29

0079

FORM V VOA 1/87 Rev.

11756 • 3-200-01

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	CAR21	75	72	106	43	56	52		0
02	CAR22	75	74	92	46	63	50		0
03	CAR29	76	65	123	45	65	84		0
04	CN934	83	70	122	42	58	78		0
~~05~~	~~CN934MSD~~	~~93~~	85	~~119~~	42	58	96		0
06	CP882	73	68	116	41	55	86		0
07	CX870	95	86	127	48	66	79		0
08	CX871	81	74	132	50	66	81		0
09	CN934MS	66	65	117	43	62	95		0
10	CN934MSD	93	85	119	42	58	96		0
11	SBLKW1	75	75	113	39	56	53		0

all ≈ same + Comp. to SBlk

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl	(33-141)
S4 (PHL)	= Phenol-d5	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix Spike - EPA Sample No.: CN934

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	200	0	86.8	43	12- 86
2-Chlorophenol	200	0	169	85	27-123
1,4-Dichlorobenzene	100	0	56.7	57	36 97
N-Nitroso-di-n-prop.(1)	100	0	73.8	74	41 116
1,2,4-Trichlorobenzene	100	0	60.1	60	39 98
4-Chloro-3-methylphenol	200	0	181	91	23 97
Acenaphthene	100	0	80.3	80	46-118
4-Nitrophenol	200	0	63.2	32	10- 80
2,4-Dinitrotoluene	100	0	84.3	84	24- 96
Pentachlorophenol	200	0	183	92	9-103
Pyrene	100	0	127	127	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200	82.6	41	5	42	12- 86
2-Chlorophenol	200	152	76	11	40	27-123
1,4-Dichlorobenzene	100	69.9	70	-20	28	36 97
N-Nitroso-di-n-prop.(1)	100	97.9	98	-28	38	41 116
1,2,4-Trichlorobenzene	100	78.3	78	-26	28	39 98
4-Chloro-3-methylphenol	200	170	85	7	42	23 97
Acenaphthene	100	96.7	97	-19	31	46-118
4-Nitrophenol	200	70.9	35	-9	50	10- 80
2,4-Dinitrotoluene	100	90.9	91	-8	38	24- 96
Pentachlorophenol	200	167	84	9	50	9-103
Pyrene	100	126	126	1	31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

11756 • 3-300-01

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	CAR21	96	0
02	CAR22	100	0
03	CAR29	97	0
04	CN934	104	0
05	CN934MS	113	0
06	CN934MSD	111	0
07	CP882	95	0
08	CX870	113	0
09	CX871	91	0
10	PBLKW1	100	0

ADVISORY
QC LIMITS
(24-154)

S1 (DBC) = Dibutlychlorendate

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

0298

FORM II PEST-1 1/87 Rev.

11756 • 3-301-01

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix Spike - EPA Sample No.: CN934

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0	0.174	87	56-123
Heptachlor	0.200	0	0.165	83	40-131
Aldrin	0.200	0	0.167	84	40-120
Dieldrin	0.500	0	0.481	96	52-126
Endrin	0.500	0	0.520	104	56-121
4,4'-DDT	0.500	0	0.626	125	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0.176	88	-1	15	56-123
Heptachlor	0.200	0.170	85	-3	20	40-131
Aldrin	0.200	0.175	88	-5	22	40-120
Dieldrin	0.500	0.481	96	0	18	52-126
Endrin	0.500	0.530	106	-2	21	56-121
4,4'-DDT	0.500	0.575	115	8	27	38-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

PROJECT NAME: Nockamixon Twp
TDD NO.: F3-8903-20

EPA SITE NO.: PA2483
REGION: III

SUPPORT DOCUMENTATION FOR THE REVIEW OF ORGANIC ANALYSIS LAB DATA PACKAGE

CASE/SAS NO.: 11756
TYPE OF ANALYSIS: Organics
CONTRACT LABORATORY: ARI
APPLICABLE IFB OR SOW: 1/87
REVIEWER: R. Cohen
REVIEW DATE: 9/21/89

APPLICABLE SAMPLE NO's.:
SOLIDS
SA023-28, CW137

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL CHECK (✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW				PROBLEM AREAS IDENTIFIED CHECK (✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW				SUPPORT DOCUMENTATION ATTACHMENTS CHECK (✓) IF YES OR IDENTIFY ATTACHMENT NO.			
	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB
HOLDING TIMES	✓											
BLANK ANALYSIS RESULTS: TARGET COMPOUNDS	✓											
BLANK ANALYSIS RESULTS: TENTATIVE I.D.s	✓											
SURROGATE SPIKE RESULTS	✓											
MATRIX SPIKE RESULTS	✓											
DUPLICATE ANALYSIS RESULTS	✓											
TARGET COMPOUND MATCHING QUALITY	✓											
TENTATIVELY IDENTIFIED COMPOUNDs	✓											
DFTPP & BFB SPECTRUM TUNE RESULTS	✓											
GC INSTRUMENT PERFORMANCE	✓											
INITIAL CALIBRATIONS	✓											
CONTINUING CALIBRATIONS	✓											
QUANTITATION OF RESULTS	✓											
OTHERS	✓											

COMMENTS:

20/5/5 BLANK ANALYSIS RESULTS FOR TARGET COMPOUNDS 1/156

FRACTION	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMIT)
VOA	med level solid blank			VBlk1 575	lab	441 MeCl2 120 ug/kg .95 ug/l 368 acetone 210 ug/kg 1.7 ug/l
VOA	low level solid blk			VBlk2 575	lab	134 MeCl2 1.2 ug/l 122 acetone 1.7 ug/l (2)
VOA	low level trip blk			CW137 55	NUS	MeCl2 1.5 ug/kg acetone 1.2 ug/kg
BNA	low solid lab blk (GPC)			SBlk1	lab	1559 BEHP 0.28 ug/l (2)
PEST	low solid lab blk			PBlk1	lab	none detected

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHIN TH SAMPLE ANALYTICAL DATA SUMMARY. TENTATIVELY IDENTIFIED COMPOUNDS IN BLANKS ARE LISTED ON A SEPARATE FO

COMMENTS:

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM QUANTITATION LIST, DIAGNOSTICS, CHROMATOGRAM AND/OR SPECTRA.

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

ALL TENTATIVELY IDENTIFIED COMPOUNDS FOUND IN BLANK ANALYSES ARE LISTED BELOW:

SAMPLE #	FRACTION	SCAN #(S) OR R.T	ESTIMATED CONCENTRATION	COMPOUND NAME	COMMENTS
VB1X1	VOA	347	<1% IS@644	NLS	644
		456	3%		763
		487	4%		1178
		586	5%	2-butanone?	
		857+	3% IS@763		
		1053	<1% IS@1178		
		1200	1%	xylene?	
		1268	1%	xylene?	
		1412	1%		
		1534	9%		
		1585	4%		
		1616	1%		
VB1X2	VOA	192	1% IS@229	NLS	
		509	<1% IS@539		
		947	10% IS@682		
CW137	VOA	192	2% IS@229	NLS	
		272	1% IS@229		
		461	<1% IS@539		
		508	1% IS@539		
		852	<1% IS@682		
		933	2% IS@682		
		949	5% IS@682		
SB1X1	BNA	1539	5%	(41, 55, 67, 68, 69, 81, 83, 93, 96, 109, 110)	507
		380	8% IS@507	NLS	729
		1600	2% IS@729		1049
		1466	5% IS@1319	pass carbonyl aux	1319
		1565	1% IS@1799		1799
		1729	1% IS@1799		2044
		1850	1% IS@1799		
		1865	2% IS@1799		
		1990	3% IS@2044		
		2115	1% IS@2044		
		2136	3%		
		2165	4%	(double peak)	
		2286	3%		
		2175	1%		
		2190	1%		

NLS = no library search conducted

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	CAR28	102	89	100		0
02	CW137	98	96	99		0
03	CAR28MS	105	90	100		0
04	CAR28MSD	104	91	100		0
05	VBLK2	98	96	99		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(81-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-2

1/87 Rev.

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Level:(low/med) MED

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	CAR23	95	105	99		0
02	CAR24	101	109	103		0
03	CAR26	101	114	104		0
04	CAR26DL	101	109	112		0
05	CAR27	101	102	107		0
06	CAR23MS	101	105	99		0
07	CAR23MSD	102	99	104		0
08	VBLK1	101	103	102		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(81-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix Spike - EPA Sample No.: CAR23 Level:(low/med) MED

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	7720	0	8840	115	59-172
Trichloroethene	7720	2110	11300	119	62-137
Benzene	7720	0	7800	101	66-142
Toluene	7720	0	9330	121	59-139
Chlorobenzene	7720	0	7020	91	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	7720	8490	110	4	22	59-172
Trichloroethene	7720	10500	109	9	24	62-137
Benzene	7720	8050	104	-3	21	66-142
Toluene	7720	9350	121	0	21	59-139
Chlorobenzene	7720	6980	90	1	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

$\frac{10\,ml}{4g} \times \frac{5000\,ml}{100\,ml} = 125$ df

VOA · solids 11756

Sum/ms ok

(df = 150)

	CAR23		MS	MSD (copy)	CAR24 Field dup
CH_2Cl_2	160	lowest + QB	470	720	—
acetone	280		550	440	—
1,1,1-TCEa	240	J	250	280 highest ✓3	300
TCE (ms)	2100	ms limpd can't det & conc from spike	(73.23-50)×150 = 3500	(68.25-50)×150 = 2700	2200
PCE	21000		21,000	22,000 high (3)	25,000

	160		320		
	26		26 DL (2x)		
CH_2Cl_2	620		1000	lowest - QB/B	(1)
acetone	620		1300		
1,1,1,TCEa	2600	16	2800	8.8 — highest	(5)
TCE	8600		7700	— highest	(5)
PCE	52,000	325	44000	137 138 — within cal range	(6)

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix Spike - EPA Sample No.: CAR28 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	74.6	0	77.8	104	59-172
Trichloroethene	74.6	0	72.7	97	62-137
Benzene	74.6	0	67.4	90	66-142
Toluene	74.6	0	79.2	106	59-139
Chlorobenzene	74.6	0	63.1	85	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	71.8	69.6	97	7	22	59-172
Trichloroethene	71.8	70.7	98	-1	24	62-137
Benzene	71.8	64.2	89	1	21	66-142
Toluene	71.8	75.9	106	0	21	59-139
Chlorobenzene	71.8	60.5	84	1	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

ab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596AMSD

ample wt/vol: 4.0 (g/mL) G Lab File ID: F5596AMSD

evel: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 19 Date Analyzed: 05/05/89

olumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	1500	U	
74-83-9	Bromomethane	1500	U	
75-01-4	Vinyl Chloride	1500	U	
75-00-3	Chloroethane	1500	U	
75-09-2	Methylene Chloride	720	BJ	
67-64-1	Acetone	440	BJ	
75-15-0	Carbon Disulfide	770	U	
75-35-4	1,1-Dichloroethene	770	U	
75-35-3	1,1-Dichloroethane	770	U	
540-59-0	1,2-Dichloroethene (total)	770	U	
67-66-3	Chloroform	770	U	
107-06-2	1,2-Dichloroethane	770	U	
78-93-3	2-Butanone	1500	U	
71-55-6	1,1,1-Trichloroethane	280	J	highest result
56-23-5	Carbon Tetrachloride	770	U	
108-05-4	Vinyl Acetate	1500	U	
75-27-4	Bromodichloromethane	770	U	
78-87-5	1,2-Dichloropropane	770	U	
10061-01-5	cis-1,3-Dichloropropene	770	U	
79-01-6	Trichloroethene	770	U	
124-48-1	Dibromochloromethane	770	U	
79-00-5	1,1,2-Trichloroethane	770	U	
71-43-2	Benzene	770	U	
10061-02-6	Trans-1,3-Dichloropropene	770	U	
75-25-2	Bromoform	770	U	
108-10-1	4-Methyl-2-Pentanone	1500	U	
591-78-6	2-Hexanone	1500	U	
127-18-4	Tetrachloroethene	22000		highest result
79-34-5	1,1,2,2-Tetrachloroethane	1500	U	
108-88-3	Toluene	770	U	
108-90-7	Chlorobenzene	770	U	
100-41-4	Ethylbenzene	770	U	
100-42-5	Styrene	770	U	
1330-20-7	Total Xylenes	770	U	

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

evel:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	CAR23	44	64	104	48	43	52		0
02	CAR24	43	67	72	47	71	67		0
03	CAR26	62	67	99	65	87	49		0
04	CAR27	62	68	97	32	40	31		0
05	CAR28	55	67	104	59	68	62		0
06	CAR28MS	64	79	103	70	75	91		0
07	CAR28MSD	58	67	83	61	68	77		0
08	SBLK1	53	63	83	58	71	57		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix Spike - EPA Sample No.: CAR28 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	8790	0	5540	63	26- 90
2-Chlorophenol	8790	0	6200	71	25-102
1,4-Dichlorobenzene	4400	0	2530	58	28 104
N-Nitroso-di-n-prop.(1)	4400	0	2780	63	41 126
1,2,4-Trichlorobenzene	4400	0	3120	71	38 107
4-Chloro-3-methylphenol	8790	0	6370	72	26 103
Acenaphthene	4400	0	3370	77	31-137
4-Nitrophenol	8790	0	6110	70	11-114
2,4-Dinitrotoluene	4400	0	3820	87	28- 89
Pentachlorophenol	8790	0	6180	70	17-109
Pyrene	4400	0	3710	84	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	9350	5470	59	7	35	26- 90
2-Chlorophenol	9350	6310	67	6	50	25-102
1,4-Dichlorobenzene	4670	2770	59	-2	27	28 104
N-Nitroso-di-n-prop.(1)	4670	2620	56	12	38	41 126
1,2,4-Trichlorobenzene	4670	3290	70	1	23	38 107
4-Chloro-3-methylphenol	9350	7180	77	-7	33	26 103
Acenaphthene	4670	3320	71	8	19	31-137
4-Nitrophenol	9350	6280	67	4	50	11-114
2,4-Dinitrotoluene	4670	3950	85	2	47	28- 89
Pentachlorophenol	9350	3810	41	52 *	47	17-109
Pyrene	4670	3350	72	15	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix Spike - EPA Sample No.: CAR28 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	35.2	0	27.4	78	46-127
Heptachlor	35.2	0	23.6	67	35-130
Aldrin	35.2	0	22.5	64	34-132
Dieldrin	87.9	0	62.7	71	31-134
Endrin	87.9	0	73.0	83	42-139
4,4'-DDT	87.9	0	60.0	68	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	31.1	25.8	83	-6	50	46-127
Heptachlor	31.1	21.4	69	-3	31	35-130
Aldrin	31.1	20.9	67	-5	43	34-132
Dieldrin	77.8	59.1	76	-7	38	31-134
Endrin	77.8	63.9	82	1	45	42-139
4,4'-DDT	77.8	55.8	72	-6	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	CAR23	54	0
02	CAR24	63	0
03	CAR26	67	0
04	CAR27	67	0
05	CAR28	63	0
06	CAR28MS	72	0
07	CAR28MSD	77	0
08	PBLK1	82	0

ADVISORY QC LIMITS

S1 (DBC) = Dibutlychlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II PEST-2 1/87 Rev.

PROJECT NAME: Nockamixon Twp.
TDD NO.: F3-8903-20

EPA SITE NO.: PA2483
REGION: III

SUPPORT DOCUMENTATION FOR THE REVIEW OF INORGANIC ANALYTICAL DATA PACKAGE

CASE/SAS NO.: 11756
TYPE OF ANALYSIS: inorg, CN
CONTRACT LABORATORY: ChemTech
APPLICABLE IFB OR SOW: 7/87
REVIEWER: R. Cohen
REVIEW DATE: 8/29/89

APPLICABLE SAMPLE NO's.:
AQ SP/S: MCAF 38-39
MCBX82
MCY 686-688, MCY694

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL (CHECK (✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW)					PROBLEM AREAS IDENTIFIED (CHECK (✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW)					SUPPORT DOCUMENTATION ATTACHMENTS (CHECK (✓) IF YES OR IDENTIFY ATTACHMENT NO.)				
	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE
HOLDING TIMES	✓														
BLANK ANALYSIS RESULTS	✓					✓					✓				
MATRIX SPIKES (PRE-DIGESTION)	✓										✓				
DUPLICATES	✓										✓				
QUANTITATION OF RESULTS	✓										✓				
DETECTION LIMITS/SENSITIVITY	✓														
INITIAL CALIBRATIONS	✓														
CONTINUING CALIBRATIONS	✓														
LABORATORY CONTROL STANDARDS	✓														
ICP LINEAR RANGE ANALYSIS	✓														
ICP INTERFERENCE CHECKS	✓														
ICP SERIAL DILUTIONS	✓										✓				
GFAA POST-DIGESTION SPIKES	✓										✓				
GFAA DUPLICATE BURNS	✓														
GFAA STANDARD ADDITIONS	✓										✓				
OTHERS	✓														

COMMENTS:

BLANK ANALYSIS RESULTS

TASK	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMI
metals	initial cal blk				lab	none
	continuing calib blanks				lab	Be 4.3 ug/l Cr 8.0 ug/l
	prep blanks				lab	none
	field blank			MC4694	NWS	al 105 ug/l cd 10.5 ug/l cr 11.2 ug/l Fe 346 ug/l Pb 12.5 ug/l Mn 23.3 ug/l Ag 19.2 ug/l
CN	all blanks					none detected

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHI SAMPLE ANALYTICAL DATA SUMMARY.

COMMENTS:

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM RAW DATA

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

AA CRDL Standard Source: INOR-VEN

ICP CRDL Standard Source: INOR-VEN

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP					
				Initial			Final		
	True	Found	%R	True	Found	%R	Found	%R	
Aluminum									
Antimony				120.0	162.91	135.8	98.52	82.1	
Arsenic	10.0	11.20	112.0						
Barium									
Beryllium				10.0	22.89	228.9	11.81	118.1	
Cadmium				10.0	17.92	179.2	5.65	56.5	
Calcium									
Chromium				20.0	12.52	62.6	5.27	26.4	
Cobalt				100.0	93.18	93.2	79.02	79.0	
Copper				50.0	34.62	69.2	41.19	82.4	
Iron									
Lead	5.0	6.30	126.0	44.0	-10.56	-24.0	136.80	310.9	X no res from ICP
Magnesium									
Manganese				30.0	33.54	111.8	23.62	78.7	
Mercury									
Nickel				80.0	66.10	82.6	74.39	93.0	
Potassium									
Selenium	5.0	3.10	62.0						
Silver				20.0	-13.33	-66.6	-12.56	-62.8	
Sodium									
Thallium	10.0	10.05	100.5						
Vanadium				100.0	100.74	100.7	98.02	98.0	
Zinc				40.0	40.56	101.4	49.92	124.8	

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3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	100.0	U	100.0	U	100.0	U	100.0	U	100.0	U	P
Antimony	38.0	U	38.0	U	38.0	U	38.0	U	38.0	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Barium	29.0	U	29.0	U	29.0	U	29.0	U	29.0	U	P
Beryllium	4.0	U	4.3	B	4.0	U	4.0	U	4.0	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	P
Calcium	770.0	U	770.0	U	770.0	U	770.0	U	770.0	U	P
Chromium	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	P
Cobalt	12.0	U	12.0	U	12.0	U	12.0	U	12.0	U	P
Copper	22.0	U	22.0	U	22.0	U	22.0	U	22.0	U	P
Iron	100.0	U	100.0	U	100.0	U	100.0	U	100.0	U	P
Lead	-1.5	B	-1.3	B	-2.0	B	-1.7	B	-1.5	B	F
Magnesium	760.0	U	760.0	U	760.0	U	760.0	U	760.0	U	P
Manganese	14.0	U	14.0	U	14.0	U	14.0	U	14.0	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.2	U	CV
Nickel	27.0	U	27.0	U	27.0	U	27.0	U	27.0	U	P
Potassium	1060.0	U	1060.0	U					1060.0	U	A
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Silver	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	P
Sodium	700.0	U	700.0	U	700.0	U	700.0	U	700.0	U	P
Thallium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	F
Vanadium	19.0	U	19.0	U	19.0	U	19.0	U	19.0	U	P
Zinc	17.0	U	17.0	U	17.0	U	17.0	U	17.0	U	P
Cyanide	10.0	U	10.0	U	10.0	U			5.0	U	C

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3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			100.0	U	100.0	U	100.0	U			P
Antimony			38.0	U	38.0	U	38.0	U			P
Arsenic											NR
Barium			29.0	U	29.0	U	29.0	U			P
Beryllium			4.0	U	4.0	U	4.0	U			P
Cadmium			5.0	U	5.0	U	5.0	U			P
Calcium			770.0	U	770.0	U	770.0	U			P
Chromium			8.0	B	8.0	U	8.0	U			P
Cobalt			12.0	U	12.0	U	12.0	U			P
Copper			22.0	U	22.0	U	22.0	U			P
Iron			100.0	U	100.0	U	100.0	U			P
Lead			-1.3	B	-2.0	B	-1.7	B			F
Magnesium			760.0	U	760.0	U	760.0	U			P
Manganese			14.0	U	14.0	U	-14.0	B			P
Mercury											NR
Nickel			27.0	U	27.0	U	-38.0	B			P
Potassium											NR
Selenium			2.0	U							F
Silver			10.0	U	10.0	U	10.0	U			P
Sodium			700.0	U	700.0	U	700.0	U			P
Thallium											NR
Vanadium			19.0	U	19.0	U	19.0	U			P
Zinc			17.0	U	17.0	U	17.0	U			P
Cyanide											NR

3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			100.0	U							P
Antimony			38.0	U							P
Arsenic											NR
Barium			29.0	U							P
Beryllium			4.0	B							P
Cadmium			5.0	U							P
Calcium			770.0	U							P
Chromium			8.0	U							P
Cobalt			12.0	U							P
Copper			22.0	U							P
Iron			100.0	U							P
Lead			-2.1	B	1.0	U					F
Magnesium			760.0	U							P
Manganese			14.0	U							P
Mercury											NR
Nickel			27.0	U							P
Potassium											NR
Selenium											NR
Silver			10.0	U							P
Sodium			700.0	U							P
Thallium											NR
Vanadium			19.0	U							P
Zinc			17.0	U							P
Cyanide											NR

020

3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	22.0	U	22.0	U	22.0	U	22.0	U	22.0	U	P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			22.0	U	22.0	U	22.0	U			P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ McAF38

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			22.0	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ McAF38

ICP ID Number: P1 ICS Source: EMSL-LV

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	511000	508000	~~5516~~ 553900	540700.0	106.4	463000	508200.0	99.4
Antimony			-200	-185.9		-259	-326.8	
Arsenic								
Barium		483	19	471.2	97.6	10	514.5	106.5
Beryllium		474	2	495.7	104.6	1	464.3	98.0
Cadmium		909	84	1005.9	110.7	57	959.7	105.6
Calcium	476000	470000	517600	494090.0	105.1	547600	523000.0	111.3
Chromium		513	48	506.0	98.6	33	491.6	95.8
Cobalt		478	8	450.8	94.3	-6	446.6	93.4
Copper		534	-9	537.7	100.7	8	563.1	105.4
Iron	219000	211000	214260	209790.0	99.4	189130	209400.0	99.2
Lead		4850	-379	4573.1	94.3	-206	4392.5	90.6
Magnesium	513000	513000	548300	536300.0	104.5	483230	560200.0	109.2
Manganese		470	6	462.6	98.4	-26	471.3	100.3
Mercury								
Nickel		916	-61	795.1	86.8	-52	864.9	94.4
Potassium								
Selenium								
Silver		993	-14	907.7	91.4	-7	987.9	99.5
Sodium			367	264.6		222	151.9	
Thallium								
Vanadium		475	-74	419.7	88.4	-56	433.2	91.2
Zinc		973	1022	988.5	101.6	8	929.2	95.5

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MCAF38S

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2341.6000		183.8100		2000.0	107.9		P
Antimony	75-125	566.5100		38.0000	U	500.0	113.3		P
Arsenic	75-125	49.4500		3.2500	B	40.0	115.5		F
Barium	75-125	2031.4000		41.8100		2000.0	99.5		P
Beryllium	75-125	59.6100		4.0000	U	50.0	119.2		P
Cadmium	75-125	56.0500		17.0400		50.0	78.0		P
Calcium									NR
Chromium	75-125	246.7600		49.3900		200.0	98.7		P
Cobalt	75-125	500.7800		12.0000	U	500.0	100.2		P
Copper	75-125	281.3300		49.5900		250.0	92.7		P
Iron	75-125	1706.2000		681.4300		1000.0	102.5		P
Lead	75-125	31.4000 ~~538.6900~~		24.4000 ~~22.0000~~	U	20.0 ~~500.0~~	56.0 ~~107.7~~ 35.0	N	P/F
Magnesium									NR
Manganese	75-125	~~500.1200~~		14.0000	U	500.0	100.0		P
Mercury	75-125	1.4000		0.3000		1.0	110.0		CV
Nickel	75-125	495.5500		27.0000	U	500.0	99.1		P
Potassium									NR
Selenium	75-125	9.4000		2.0000	U	10.0	94.0		F
Silver	75-125	14.6400		10.0000	U	50.0	29.3	N	P
Sodium									NR
Thallium	75-125	42.3500		3.0000	U	50.0	84.7		F
Vanadium	75-125	537.1000		19.0000	U	500.0	107.4		P
Zinc	75-125	672.3100		113.0900		500.0	111.8		P
Cyanide	75-125	47.0000		5.0000	U	50.0	94.0		C

Comments:

Lead result det from MSA, initial res = 13.2 ug/l ⟹ 91% rec.

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6
DUPLICATES

EPA SAMPLE NO.

MCAF39D

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0 % Solids for Duplicate: 0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0	255.5500		257.7900		0.9		P
Antimony	60.0	38.0000	U	38.0000	U			P
Arsenic	10.0	2.0000	U	2.0000	U			F
Barium	200.0	29.0000	U	29.0000	U			P
Beryllium	5.0	4.0000	U	4.0000	U			P
Cadmium	5.0	19.1800		5.0000	U	200.0	*	P
Calcium	5000.0	770.0000	U	770.0000	U			P
Chromium	10.0	48.5600		49.2800		1.5		P
Cobalt	50.0	12.0000	U	12.0000	U			P
Copper	25.0	67.2600		71.9700		6.8		P
Iron		511.8800		532.5100		4.0		P
Lead	5.0	17.1000 ~~58.0300~~		14.4000 ~~62.1800~~		17.1 ~~6.9~~		~~P~~ F
Magnesium	5000.0	760.0000	U	760.0000	U			P
Manganese	15.0	14.0000	U	14.0000	U			P
Mercury	0.2	0.2000	U	0.2000	U			CV
Nickel	40.0	28.7700		27.0000	U	200.0		P
Potassium	5000.0	1060.0000	U	1060.0000	U			A
Selenium	5.0	2.0000	U	2.0000	U			F
Silver	10.0	10.0000	U	10.0000	U			P
Sodium		101250.0000		103110.0000		1.8		P
Thallium	10.0	3.0000	U	3.0000	U			F
Vanadium	50.0	19.0000	U	19.0000	U			P
Zinc	20.0	24.1700		30.7300		23.9		P
Cyanide	5.0	5.0000	U	5.0000	U			C

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LABORATORY CONTROL SAMPLE

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Solid LCS Source:

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1045.0	1127.20	107.9						
Antimony	505.0	507.47	100.5						
Arsenic	49.0	42.35	86.4						
Barium	1005.0	1031.40	102.6						
Beryllium	250.0	277.00	110.8						
Cadmium	246.0	277.95	113.0						
Calcium	25100.0	27085.00	107.9						
Chromium	252.0	272.34	108.1						
~~Cobalt~~	~~249.0~~	~~261.71~~	~~105.1~~						
Copper	260.0	285.46	109.8						
Iron	1040.0	1082.70	104.1						
Lead	2480.0	2727.30	110.0						
Magnesium	12850.0	13604.00	105.9						
Manganese	252.0	270.39	107.3						
Mercury									
Nickel	242.0	268.67	111.0						
Potassium	10000.0	9900.00	99.0						
Selenium	104.0	105.20	101.2						
Silver	242.0	259.49	107.2						
Sodium	25750.0	25973.00	100.9						
Thallium	49.0	45.60	93.1						
Vanadium	252.0	282.32	112.0						
Zinc	1460.0	1704.70	116.8						
Cyanide									

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8 AA
STANDARD ADDITION RESULTS

] b Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MCAF38 ~~MACF38~~

Concentration Units: ug/L

EPA Sample No.	An	Dil	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
~~MCAF38~~ ~~MACF38~~	PB	1	28.300	20	19.700	40	25.300	60	39.100	117.9	0.6017	+
~~MCF38~~	~~PB~~	~~1~~	~~28.300~~	~~20~~	~~19.700~~	~~40~~	~~25.300~~	~~60~~	~~39.100~~	~~117.9~~	~~0.6017~~	~~+~~
~~MCF38~~	PB	1	11.500	20	18.200	40	23.600	60	37.500	24.4	0.9754	+
~~MACF38~~	~~PB~~	~~1~~	~~11.500~~	~~20~~	~~18.200~~	~~40~~	~~23.600~~	~~60~~	~~37.500~~	~~24.4~~	~~0.9754~~	~~+~~
:Y686	PB	1	7.700	20	15.500	40	24.100	60	35.800	14.7	0.9953	✓
~~:Y686~~	~~PB~~	~~1~~	~~7.700~~	~~20~~	~~15.500~~	~~40~~	~~24.100~~	~~60~~	~~35.800~~	~~14.7~~	~~0.9953~~	
MCY687	PB	1	20.200	20	29.900	40	32.700	60	44.800	53.3	0.9761	+
~~MCY687~~	~~PB~~	~~1~~	~~20.200~~	~~20~~	~~29.900~~	~~40~~	~~32.700~~	~~60~~	~~44.800~~	~~53.3~~	~~0.9761~~	~~+~~
] :Y687	PB	1	29.800	20	28.800	40	35.900	60	44.500	105.7	0.9158	+
~~:Y687~~	~~PB~~	~~1~~	~~29.800~~	~~20~~	~~28.800~~	~~40~~	~~35.900~~	~~60~~	~~44.500~~	~~105.7~~	~~0.9158~~	~~+~~
MCY688	PB	1	14.800	20	22.800	40	29.000	60	40.200	34.8	0.9929	+
~~Y688~~	~~PB~~	~~1~~	~~14.800~~	~~20~~	~~22.800~~	~~40~~	~~29.000~~	~~60~~	~~40.200~~	~~34.8~~	~~0.9929~~	~~+~~
Y688	PB	1	14.900	20	22.400	40	29.600	60	41.400	32.5	0.9923	+
~~MCY688~~	~~PB~~	~~1~~	~~14.900~~	~~20~~	~~22.400~~	~~40~~	~~29.600~~	~~60~~	~~41.400~~	~~32.5~~	~~0.9923~~	~~+~~

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9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

MCY686L

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	488.18		(475)	B			NR
Antimony	38.00	U					NR
Arsenic							F
Barium	114.85		146	B	22		NR
Beryllium	4.00	U					NR
Cadmium	5.00	U					NR
Calcium	97626.00		98115.00		0.5		P
Chromium	8.00	U					NR
Cobalt	12.00	U					NR
Copper	41.84		160		75		NR
Iron	621.97		665		65		NR
Lead	~~68.63~~						~~NR~~ F NR
Magnesium	17385.00		17398.00		0.1		P
Manganese	14.00	U					NR
Mercury							CV
Nickel	27.00	U					NR
Potassium							A
Selenium							F
Silver	17.68		diff/5 < IDL 50		64		NR ok
Sodium	15489.00		17451.00		12.7		P
Thallium							F
Vanadium	19.00	U					NR
Zinc	483.23		diff/5 < IDL 398.50		17.5		P

029

Metal ITS
IDL 2 ug/l

Spike Recovery Evaluation Form

Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted PDS Recovery	MSA Result (if needed)	Final Result Reported
MCAF38	3.2	90				3.2 ug/l ✓
MCAF38SP	49.4	–				116 %
MCAF39	ND	105				U ✓
39-dup	ND	104				U ✓
MCBH82	ND	105				U ✓
MCY686	ND	100				U ✓
MCY687	2.2	95				2.2 ug/l ✓
MCY688	ND	105				U ✓
MCY694	ND	100				U ✓
MCAF38	ND	64				U ✓
38SP	9.8	–				98 % ✓
MCAF39	ND	105				U ✓
39dup	ND	102				U ✓
MCBH82	ND	94				U ✓
MCY686	ND	81				U ✓
687	ND	140				U ✓
688	ND	111				U ✓
694	ND	128				U ✓
MCAF38	ND	115				U ✓
38SP	42	–				84 % ✓
MCAF39	ND	97				U ✓
39dup	ND	105				U ✓
MCBH82	ND	105				U ✓
MCY686	ND	102				U ✓
687	ND	108				U ✓
688	ND	105				U ✓
694	ND	110				U ✓

Metal Se (+40) 2 ug/l

Metal Pb (+50) IDL 2 ug/l

Metal Pb
IDL

Spike Recovery Evaluation Form

	Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted PDS Recovery	MSA Result (if needed)	Final Result Reported	
	MCAF38	13.2	51 hiCV			24.4	24.4 ✓	lower
(+20)	MCAF38SP	31.4	—				(91%)	consider instead
	MCAF39	25 hiCV	10 rerun	rerun: 17.1	91		17.1 ug/l	
	39-Dup	14.4	107				(14.4)	
	MCBN82	6.0	84	rerun 8.4	9.0		6.0 ug/l ✓	
	MCY686	10.5	138			14.7	14.7 ug/l ✓	
	MCY687	33.4	119			53.3	53.3 ug/l	lower
	MCY688	23.4	59			34.8	34.8 ug/l	lower
	MCY694	12.8	102				12.8 ug/l	

PB 0018 MCAF39DA %R=107 ✓

24.7 25.4

MEAN= 25.1 STD.DEV.= 0.4 COEF.VAR.= 1.66 %

PB 0019 MCBH82 (03) Rem

4.5 7.5

MEAN= 6.0 STD.DEV.= 2.1 COEF.VAR.= 35.18 %

PB 0020 MCBH82A 84% report

23.8 21.6

MEAN= 22.7 STD.DEV.= 1.4 COEF.VAR.= 6.06 %

PB 0021 090 MCY686 (04) MSA

10.6 10.4

MEAN= 10.5 STD.DEV.= 0.1 COEF.VAR.= 0.88 %

PB 0027 MCY688 (06) MSA

24.3 23.5

MEAN= 23.9 STD.DEV.= 0.5 COEF.VAR.= 2.03 %

PB 0028 MCY688A %R=59

31.8 27.7

MEAN= 29.8 STD.DEV.= 2.5 COEF.VAR.= 8.40 %

PB 0029 MCY694 (07)

11.6 14.1

MEAN= 12.8 report STD.DEV.= 1.6 COEF.VAR.= 12.78 %

PB 0030 MCY694A %R=102

21.9 24.1

MEAN= 23.0 STD.DEV.= 1.4 COEF.VAR.= 5.99 %

PB 0031 MCAF39 (02)

17.7 16.6

MEAN= 17.1 report STD.DEV.= 0.7 COEF.VAR.= 3.89 %

PB 0032 MCAF39A %R=91

25.9 26.6

MEAN= 26.2 STD.DEV.= 0.4 COEF.VAR.= 1.67 %

PB 0033 MCBH82 (03) don't report

7.3 9.6

MEAN= 8.4 STD.DEV.= 1.6 COEF.VAR.= 18.54 %

PB 0034 MCBH82A 9.0% CV>20 second time for CV>20

12.7 7.5

MEAN= 10.2 STD.DEV.= 3.5 COEF.VAR.= 34.59 %

PROJECT NAME: Nockamixon Twp.
TDD NO.: F3-8903-20

EPA SITE NO.: PA 2483
REGION: III

SUPPORT DOCUMENTATION FOR THE REVIEW OF INORGANIC ANALYTICAL DATA PACKAGE

CASE/SAS NO.: 11756
TYPE OF ANALYSIS: Inorganic - CLP
CONTRACT LABORATORY: Key - Tex
APPLICABLE IFB OR SOW: 7/87
REVIEWER: R. Cohen
REVIEW DATE: 8/30/89

APPLICABLE SAMPLE NO's.:
SOLIDS:
MSY1089 - 693

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL CHECK(✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW					PROBLEM AREAS IDENTIFIED CHECK(✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW					SUPPORT DOCUMENTATION ATTACHMENTS CHECK (✓) IF YES OR IDENTIFY ATTACHMENT NO.				
	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE
HOLDING TIMES	✓														
BLANK ANALYSIS RESULTS	✓										✓				
MATRIX SPIKES (PRE-DIGESTION)	✓														
DUPLICATES	✓														
QUANTITATION OF RESULTS	✓														
DETECTION LIMITS/SENSITIVITY	✓														
INITIAL CALIBRATIONS	✓														
CONTINUING CALIBRATIONS	✓														
LABORATORY CONTROL STANDARDS	✓														
ICP LINEAR RANGE ANALYSIS	✓														
ICP INTERFERENCE CHECKS	✓														
ICP SERIAL DILUTIONS	✓														
GFAA POST-DIGESTION SPIKES	✓														
GFAA DUPLICATE BURNS	✓														
GFAA STANDARD ADDITIONS	✓														
OTHERS	✓														

COMMENTS:

BLANK ANALYSIS RESULTS

TASK	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMI
Metals	initial calib. blank				lab	Cu 8.3 ug/l Pb 1.4 ug/l Zn 17.4 ug/l
	continuing calib blk				lab	Cu 11.9 ug/l Fe 10.9 ug/l Zn 17.0 ug/l
	prep blank				lab	Zn 4.0 ug/l

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHIN SAMPLE ANALYTICAL DATA SUMMARY.

COMMENTS:

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM RAW DATA

NO FIELD BLANK associated with these solid samples.

KEYSTONE DC# 11866-03-06

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

AA CRDL Standard Source: EMSL/LV

ICP CRDL Standard Source: EMSL/LV

Concentrations Units: UG/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	91.83	76.5	71.65	59.7
Arsenic	10.0	10.70	107.0					
Barium								
Beryllium				10.0	14.37	143.7	14.37	143.7
Cadmium				10.0	12.55	125.5	9.63	96.3
Calcium								
Chromium				20.0	24.29	121.4	23.43	117.2
Cobalt				100.0	115.06	115.1	113.50	113.5
Copper				50.0	65.70	131.4	66.16	132.3
Iron								
Lead	5.0	5.60	112.0	100	149	149	98	98
Magnesium								
Manganese				30.0	32.35	107.8	32.82	109.4
Mercury								
Nickel				80.0	90.17	112.7	90.00	112.5
Potassium								
Selenium	5.0	4.60	92.0					
Silver				20.0	23.60	118.0	22.49	112.4
Sodium								
Thallium	10.0	12.40	124.0					
Vanadium				100.0	108.38	108.4	108.55	108.6
Zinc				40.0	46.22	115.6	52.61	131.5

nh

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U.S. EPA - CLP

3
BLANKS

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

KEYSTONE DC# 11866-03-06

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	27.1	U	27.1	U	27.1	U	27.1	U	5.420	U	P
Antimony	30.6	U	30.6	U	30.6	U	30.6	U	6.120	U	P
Arsenic	2.2	U	2.2	U	2.2	U	2.2	U	0.440	U	F
Barium	26.2	U	26.2	U	26.2	U	26.2	U	5.240	U	P
Beryllium	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Cadmium	4.0	U	4.0	U	4.0	U	4.0	U	0.800	U	P
Calcium	89.7	U	89.7	U	89.7	U	89.7	U	17.940	U	P
Chromium	4.6	U	4.6	U	4.6	U	4.6	U	0.920	U	P
Cobalt	7.6	U	7.6	U	7.6	U	7.6	U	1.520	U	P
Copper	8.3	B	9.3	B	11.9	B	5.1	B	0.580	U	P
Iron	10.7	U	10.7	U	10.9	B	10.7	U	2.140	U	P
Lead	1.4	B	1.2	U	1.2	U	1.2	U	0.240	U	F
Magnesium	137.6	U	137.6	U	137.6	U	137.6	U	27.520	U	P
Manganese	3.3	U	3.3	U	3.3	U	3.3	U	0.660	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	17.8	U	17.8	U	17.8	U	17.8	U	3.560	U	P
Potassium	472.3	U	-974.5	B	-966.3	B	-1048.3	B	94.460	U	P
Selenium	3.4	U	3.4	U	3.4	U	3.4	U	0.680	U	F
Silver	4.1	U	4.1	U	4.1	U	4.1	U	0.820	U	P
Sodium	187.2	U	187.2	U	187.2	U	187.2	U	37.440	U	P
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	F
Vanadium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Zinc	17.4	B	4.6	B	17.0	B	13.8	B	0.800	B	P
Cyanide	10.0	U	10.0	U					1.000	U	AS

000016

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3
BLANKS

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

KEYSTONE DC# 11866-03-06

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			2.2	U	2.2	U	2.2	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			1.2	U	1.2	U	1.2	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			3.4	U	3.4	U	3.4	U			F
Silver											
Sodium											
Thallium			2.0	U							F
Vanadium											
Zinc											
Cyanide											

000017

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3
BLANKS

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

KEYSTONE DC# 11866-03-06

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			2.2	U	2.2	U					
Barium											F
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			3.4	U	3.4	U					
Silver											F
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

000018

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

ICP ID Number: TJA61 ICS Source: EMSL/LV

Concentrations Units: UG/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	511000	508000	503987	502052.3	98.8	521395	517987.4	102.0
Antimony			213	13.4		322	501.5	
Arsenic								
Barium		483	2	452.1	93.6	2	462.1	95.7
Beryllium		474	0	450.4	95.0	0	473.9	100.0
Cadmium		909	2	941.8	103.6	4	957.3	105.3
Calcium	476000	470000	506003	506634.3	107.8	542487	540356.4	115.0
Chromium		513	40	512.0	99.8	39	530.2	103.4
Cobalt		478	13	461.0	96.4	13	473.5	99.1
Copper		534	-24	474.9	88.9	-22	500.1	93.7
Iron	219000	211000	206035	206451.5	97.8	214694	213755.5	101.3
Lead								
Magnesium	513000	513000	545249	545760.4	106.4	574118	571108.1	111.3
Manganese		470	-21	419.4	89.2	-17	452.9	96.4
Mercury								
Nickel		916	13	865.5	94.5	9	895.5	97.8
Potassium			-1073	-1523.3		-1851	-1359.4	
Selenium								
Silver		934		876.0	93.8	-61	930.5	99.6
Sodium			117	158.1		213	211.1	
Thallium								
Vanadium		475	45	516.5	108.7	52	537.0	113.1
Zinc		973	43	967.7	99.5	45	995.0	102.3

KEYSTONE DC# 11866-03-06

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
MCY689S

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	18.3745		7.4908	U	122.4	15.0	N	P
Arsenic	75-125	18.2619		dup=9.4 13.7465	MSA	9.8	dup=96 76.1	N	F (1)
Barium	75-125	523.3782		76.2007		489.6	91.3		P
Beryllium	75-125	14.0588		1.6524		12.2	101.7		P
Cadmium	75-125	15.1750		0.9792	U	12.2	124.4		P
Calcium									NR
Chromium	75-125	108.3256		58.0098		49.0	102.7		P
Cobalt	75-125	135.9045		14.2032		122.4	99.4		P
Copper	75-125	140.4920		dup=36.6 95.0429		61.2	d=88% 74.3	N	P spl.inh
Iron									NR
Lead		58.4333		65.7038		SR7/8A 4.9	-148.4		F ok
Magnesium									NR
Manganese	75-125	776.4749		d=594. 326.2179		122.4	dup=149% 367.9	N	P spl.inh
Mercury	75-125	0.7038		0.1224	U	0.6	117.3		CV
Nickel	75-125	154.7907		33.0331		122.4	99.5		P
Potassium									NR
Selenium	75-125	2.1542		0.8323	U	2.4	89.8		F
Silver	75-125	1.0037	U	1.0037	U	12.2	0.0	N	P
Sodium									NR
Thallium	75-125	9.3758		0.4896	U	12.2	76.8		F
Vanadium	75-125	207.1506		76.0857		122.4	107.1		P
Zinc	75-125	326.2424		185.0820		122.4	115.3		P
Cyanide	75-125	8.4712		1.7417		6.1	110.3		AS
Pb		227		98		125	103		P

Comments:
(1) DR det'n by MSA; initial result = 10.0 mg/kg (%R = 84%)

000020

KEYSTONE DC# 11866-03-06

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
MCY689A

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Level (low/med): LOW

Concentrations Units: UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		114.21		30.60	U	120.0	95.2		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper		1391.50		388.25		1000.0	100.3		P
Iron									NR
Lead									NR
Magnesium									NR
Manganese		3297.40		1332.60		2000.0	98.2		P
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

000021

KEYSTONE DC# 11866-03-06

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6
DUPLICATES

EPA SAMPLE NO.
MCY689D

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 81.7 % Solids for Duplicate: 81.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		28582.6211		30242.6680		5.6		P
Antimony		7.4908	U	7.4908	U			P
Arsenic	2.4	13.7465		9.4492		37.1	*	F
Barium	49.0	76.2007		75.6426		0.7		P
Beryllium	1.2	1.6524		1.6891		2.2		P
Cadmium		0.9792	U	0.9792	U			P
Calcium		519.4860	B	351.7503	B	38.5		P
Chromium		58.0098		60.1224		3.6		P
Cobalt	12.2	14.2032		17.3072		19.7		P
Copper		95.0428		86.5606		9.3		P
Iron		36548.3477		43667.6875		17.8		P
Lead		65.7038		71.3586		8.3		F
Magnesium		9556.9160		12605.6553		27.5	*	P
Manganese		326.2179		594.3942		58.3	*	P
Mercury		0.1224	U	0.1224	U			CV
Nickel	9.8	33.0331		38.2864		14.7		P
Potassium		604.6512	B	208.5190	B	97.4		P
Selenium		0.8323	U	0.8813	B	200.0		F
Silver		1.0037	U	1.0037	U			P
Sodium		77.2460	B	75.6426	B	2.1		P
Thallium		0.4896	U	0.4896	U			F
Vanadium		76.0857		81.2729		6.6		P
Zinc		185.0820		227.3684		20.5	*	P
Cyanide	0.6	1.7417		1.8390		5.4		AS
Lead		98		121		21.0		P

ck recalc DL

000022

KEYSTONE DC# 11866-03-06

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8
STANDARD ADDITION RESULTS

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Concentrations Units: UG/L

EPA Sample No.	An	Dil	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
MCY689	AS	2	18.300	20	36.000	40	46.90	60	61.30	56.2	0.9959	
MCY690	AS	2	17.800	20	32.100	40	44.60	60	55.60	59.2	0.9983	
MCY691	AS	2	20.500	20	37.000	40	50.50	60	61.90	63.4	0.9966	
MCY693	AS	1	18.900	20	31.200	40	45.60	60	56.40	29.9	0.9986	

000024

KEYSTONE DC# 11866-03-06

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9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

MCY689L

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Level (low/med): LOW

Concentrations Units: UG/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum_	116760.00		118298.50		1.3		P
Antimony_	30.60	U					NR
Arsenic__							F
Barium___	311.28		315.00		1.2		P
Beryllium	6.75		diff 5 LIA 7.85		14.0		NR
Cadmium__	4.00	U					NR
Calcium__	2122.10	B	2161.50	B	1.9		P
Chromium_	236.97		241.50		1.9		P
Cobalt___	58.02		55.85		3.8		NR
Copper___	388.25		389.00		0.2		P
Iron_____	149300.00		147819.00		1.0		P
Lead_____	408.0		413.0		1.2		~~F~~ P
Magnesium	39040.00		38715.50		0.8		P
Manganese	1332.60		1335.50		0.2		P
Mercury__							CV
Nickel___	134.94		128.8		4.7		NR
Potassium	2470.00	B					NR
Selenium_							F
Silver___	4.10	U					NR
Sodium___	315.55	B	935	U	—		NR
Thallium_							F
Vanadium_	310.81		319.00		2.6		P
Zinc_____	756.06		784.50		3.8		P

000025

FORM IX - IN 7/87

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Spike Recovery Evaluation Form

	Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted PDS Recovery	MSA Result (if needed)	Final Result Reported	
1,5	MCY6689	32.	hi	20.8 (x2)	75	56.2	13.7 mg/kg	
	dup	hi RPD	hi RPD	19.3 (x2)	102		(9.4) mg/kg	
DL=2.2	(+40) SP	—	—	75 (37.5x2)	—		(84 %)	
	690	—	—	19.3 (x2)	62	59.2	14.1 mg/kg	
	691			57 (2x)	50	63.4	15.8 mg/kg	
	692			48 (2x)	112		12.1 mg/kg	
	693	(17.4)	40	23 (2x)	77	29.9	8.6 mg/kg	
ve	MCY6689	2.0 hi RPD	0%	ND (2x)	91		2x U	
	dup	ND	23	ND 2x	153		2x U	
[redacted]3.4	(+10) SP	8.8	—				(88 %)	
	690	ND	17	ND 2x	86		2x U	
	691	ND	0	3.7 (2x)	110		1.8 mg/kg	
	692	ND	hi	ND 2x	122		2x U	
	693	ND	60	ND 4.0	81		1.1 mg/kg	
nb	MCY6689	hi	hi	268 (11x)	119		65.7 mg/kg	P=98
	dup	hi	hi	292	89		70 mg/kg	P=121
DL=1.2	(+20) SP	hi	hi	234	—		0%	SR77SA
	690	hi	hi	318	106		75.4 mg/kg	P=544
	691	49.7	107				12.4 mg/kg	P=58
	692	49.9	106				12.5 mg/kg	P=59
	693	hi	hi	1040	94		298 mg/kg	P=111
j-l	MCY6689	ND	74				U	
	dup	ND	90					
DL=2.0	+50 SP	38.3	—				(77%)	
	690	ND	81					
	691	ND	75					
	692	ND	76					
	693	ND	86					

APPENDIX B

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596A

Sample wt/vol: 4.0 (g/mL) G Lab File ID: F5596A

Level: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 19 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	160	BJ
67-64-1	Acetone	280	BJ
75-15-0	Carbon Disulfide	770	U
75-35-4	1,1-Dichloroethene	770	U
75-35-3	1,1-Dichloroethane	770	U
540-59-0	1,2-Dichloroethene (total)	770	U
67-66-3	Chloroform	770	U
107-06-2	1,2-Dichloroethane	770	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	240	J
56-23-5	Carbon Tetrachloride	770	U
108-05-4	Vinyl Acetate	1500	U
75-27-4	Bromodichloromethane	770	U
78-87-5	1,2-Dichloropropane	770	U
10061-01-5	cis-1,3-Dichloropropene	770	U
79-01-6	Trichloroethene	2100	
124-48-1	Dibromochloromethane	770	U
79-00-5	1,1,2-Trichloroethane	770	U
71-43-2	Benzene	770	U
10061-02-6	Trans-1,3-Dichloropropene	770	U
75-25-2	Bromoform	770	U
108-10-1	4-Methyl-2-Pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	21000	
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	770	U
108-90-7	Chlorobenzene	770	U
100-41-4	Ethylbenzene	770	U
100-42-5	Styrene	770	U
1330-20-7	Total Xylenes	770	U

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596AR

Sample wt/vol: 38.9 (g/mL) G Lab File ID: 596AR

evel: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 19 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

PC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 21

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	13000	U
111-44-4	bis(2-Chloroethyl)Ether	13000	U
95-57-8	2-Chlorophenol	13000	U
541-73-1	1,3-Dichlorobenzene	13000	U
106-46-7	1,4-Dichlorobenzene	13000	U
100-51-6	Benzyl Alcohol	13000	U
95-50-1	1,2-Dichlorobenzene	13000	U
95-48-7	2-Methylphenol	13000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	13000	U
106-44-5	4-Methylphenol	13000	U
621-64-7	N-Nitroso-Di-n-Propylamine	13000	U
67-72-1	Hexachloroethane	13000	U
98-95-3	Nitrobenzene	13000	U
78-59-1	Isophorone	13000	U
88-75-5	2-Nitrophenol	13000	U
105-67-9	2,4-Dimethylphenol	13000	U
65-85-0	Benzoic Acid	65000	U
111-91-1	bis(2-Chloroethoxy)Methane	13000	U
120-83-2	2,4-Dichlorophenol	13000	U
120-82-1	1,2,4-Trichlorobenzene	13000	U
91-20-3	Naphthalene	13000	U
106-47-8	4-Chloroaniline	13000	U
87-68-3	Hexachlorobutadiene	13000	U
59-50-7	4-Chloro-3-Methylphenol	13000	U
91-57-6	2-Methylnaphthalene	13000	U
77-47-4	Hexachlorocyclopentadiene	13000	U
88-06-2	2,4,6-Trichlorophenol	13000	U
95-95-4	2,4,5-Trichlorophenol	65000	U
91-58-7	2-Chloronaphthalene	13000	U
88-74-4	2-Nitroaniline	65000	U
131-11-3	Dimethyl Phthalate	13000	U
208-96-8	Acenaphthylene	13000	U
606-20-2	2,6-Dinitrotoluene	13000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596AR

Sample wt/vol: 38.9 (g/mL) G Lab File ID: 596AR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 21

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	65000	U
83-32-9	Acenaphthene	13000	U
51-28-5	2,4-Dinitrophenol	65000	U
100-02-7	4-Nitrophenol	65000	U
132-64-9	Dibenzofuran	13000	U
121-14-2	2,4-Dinitrotoluene	13000	U
84-66-2	Diethylphthalate	13000	U
7005-72-3	4-Chlorophenyl-phenylether	13000	U
86-73-7	Fluorene	13000	U
100-10-6	4-Nitroaniline	65000	U
534-52-1	4,6-Dinitro-2-Methylphenol	65000	U
86-30-6	N-Nitrosodiphenylamine (1)	13000	U
101-55-3	4-Bromophenyl-phenylether	13000	U
118-74-1	Hexachlorobenzene	13000	U
87-86-5	Pentachlorophenol	65000	U
85-01-8	Phenanthrene	13000	U
120-12-7	Anthracene	13000	U
84-74-2	Di-n-Butylphthalate	13000	U
206-44-0	Fluoranthene	13000	U
129-00-0	Pyrene	3200	J
85-68-7	Butylbenzylphthalate	13000	U
91-94-1	3,3'-Dichlorobenzidine	27000	U
56-55-3	Benzo(a)Anthracene	13000	U
218-01-9	Chrysene	13000	U
117-81-7	bis(2-Ethylhexyl)Phthalate	27000	
117-84-0	Di-n-Octyl Phthalate	13000	U
205-99-2	Benzo(b)Fluoranthene	13000	U
207-08-9	Benzo(k)Fluoranthene	13000	U
50-32-8	Benzo(a)Pyrene	13000	U
193-39-5	Indeno(1,2,3-cd)Pyrene	13000	U
53-70-3	Dibenz(a,h)Anthracene	13000	U
191-24-2	Benzo(g,h,i)Perylene	13000	U

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596A

Sample wt/vol: 38.9 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	15	U
319-85-7	beta-BHC	15	U
319-86-8	delta-BHC	15	U
58-89-9	gamma-BHC (Lindane)	15	U
76-44-8	Heptachlor	15	U
309-00-2	Aldrin	15	U
1024-57-3	Heptachlor epoxide	15	U
959-98-8	Endosulfan I	15	U
60-57-1	Dieldrin	31	U
72-55-9	4,4'-DDE	31	U
72-20-8	Endrin	87	U
33213-65-9	Endosulfan II	80	U
72-54-8	4,4'-DDD	31	U
1031-07-8	Endosulfan sulfate	31	U
50-29-3	4,4'-DDT	31	U
72-43-5	Methoxychlor	150	U
53494-70-5	Endrin ketone	31	U
5103-71-9	alpha-Chlordane	150	U
5103-74-2	gamma-Chlordane	150	U
8001-35-2	Toxaphene	310	U
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	150	U
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	5200	
11096-82-5	Aroclor-1260	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR23

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596A

ample wt/vol: 4.0 (g/mL) G Lab File ID: F5596A

Level: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 19 Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

umber TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 55)	20.57	770	J
2. -	UNKNOWN (HYDROCARBON M/E 57)	20.93	970	J
3. -	UNKNOWN (HYDROCARBON M/E 41)	21.37	1100	J
4. -	UNKNOWN (HYDROCARBON M/E 43)	22.83	890	J
5. -	UNKNOWN (HYDROCARBON M/E 57)	24.50	1100	J
6. -	UNKNOWN (HYDROCARBON M/E 69)	25.87	940	J
7. -	UNKNOWN (HYDROCARBON M/E 41)	26.17	890	J
8. -	UNKNOWN (HYDROCARBON M/E 81)	27.42	820	J
9. -	UNKNOWN (HYDROCARBON M/E 69)	27.90	840	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR23

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596AR

Sample wt/vol: 38.9 (g/mL) G Lab File ID: 596AR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 21

Number TICs found: 30

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (BASE PEAK M/E 121)	20.93	13000	J
2. -	UNKNOWN (BASE PEAK M/E 135)	21.05	22000	J
3. -	UNKNOWN (BASE PEAK M/E 135)	21.18	58000	J
4. -	UNKNOWN (BASE PEAK M/E 121)	21.32	27000	J
5. -	UNKNOWN (BASE PEAK M/E 121)	21.50	31000	J
6. -	UNKNOWN (BASE PEAK M/E 149)	21.57	29000	J
7. -	UNKNOWN (BASE PEAK M/E 135)	21.70	19000	J
8. -	UNKNOWN (BASE PEAK M/E 193)	24.52	38000	J
9. -	UNKNOWN (BASE PEAK M/E 179)	24.63	23000	J
10. -	UNKNOWN (BASE PEAK M/E 207)	24.80	34000	J
11. -	UNKNOWN (BASE PEAK M/E 193)	26.32	54000	J
12. -	UNKNOWN (BASE PEAK M/E 193)	26.43	21000	J
13. -	UNKNOWN (HYDROCARBON M/E 57)	27.85	72000	J
14. -	UNKNOWN (HYDROCARBON M/E 57)	28.03	41000	J
15. -	UNKNOWN (HYDROCARBON M/E 57)	28.20	51000	J
16. -	UNKNOWN (HYDROCARBON M/E 57)	28.77	58000	J
17. -	UNKNOWN (BASE PEAK M/E 55)	29.80	120000	J
18. -	UNKNOWN (HYDROCARBON M/E 57)	30.70	64000	J
19. -	UNKNOWN (HYDROCARBON M/E 57)	31.28	70000	J
20. -	UNKNOWN (HYDROCARBON M/E 57)	31.75	40000	J
21. -	UNKNOWN (HYDROCARBON M/E 57)	32.27	59000	J
22. -	UNKNOWN (HYDROCARBON M/E 57)	32.70	29000	J
23. -	UNKNOWN (HYDROCARBON M/E 57)	32.77	25000	J
24. -	UNKNOWN (HYDROCARBON M/E 57)	33.08	68000	J
25. -	UNKNOWN (HYDROCARBON M/E 57)	33.78	36000	J
26. -	UNKNOWN (HYDROCARBON M/E 57)	33.85	35000	J
27. -	UNKNOWN (HYDROCARBON M/E 57)	34.32	29000	J
28. -	UNKNOWN (HYDROCARBON M/E 57)	34.70	57000	J
29. -	UNKNOWN (HYDROCARBON M/E 57)	35.20	55000	J
30. -	UNKNOWN (HYDROCARBON M/E 55)	35.90	45000	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR24

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596B

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596B

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 19 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	460	BJ
67-64-1	Acetone	1400	U
75-15-0	Carbon Disulfide	750	U
75-35-4	1,1-Dichloroethene	750	U
75-35-3	1,1-Dichloroethane	750	U
540-59-0	1,2-Dichloroethene (total)	750	U
67-66-3	Chloroform	750	U
107-06-2	1,2-Dichloroethane	750	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	300	J
56-23-5	Carbon Tetrachloride	750	U
108-05-4	Vinyl Acetate	1400	U
75-27-4	Bromodichloromethane	750	U
78-87-5	1,2-Dichloropropane	750	U
10061-01-5	cis-1,3-Dichloropropene	750	U
79-01-6	Trichloroethene	2200	
124-48-1	Dibromochloromethane	750	U
79-00-5	1,1,2-Trichloroethane	750	U
71-43-2	Benzene	750	U
10061-02-6	Trans-1,3-Dichloropropene	750	U
75-25-2	Bromoform	750	U
108-10-1	4-Methyl-2-Pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	25000	
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	750	U
108-90-7	Chlorobenzene	750	U
100-41-4	Ethylbenzene	750	U
100-42-5	Styrene	750	U
1330-20-7	Total Xylenes	750	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR24

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596BR

Sample wt/vol: 39.2 (g/mL) G Lab File ID: F4596BR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 14 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.2 Dilution Factor: 24

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	14000	U
111-44-4	bis(2-Chloroethyl)Ether	14000	U
95-57-8	2-Chlorophenol	14000	U
541-73-1	1,3-Dichlorobenzene	14000	U
106-46-7	1,4-Dichlorobenzene	14000	U
100-51-6	Benzyl Alcohol	14000	U
95-50-1	1,2-Dichlorobenzene	14000	U
95-48-7	2-Methylphenol	14000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	14000	U
106-44-5	4-Methylphenol	14000	U
621-64-7	N-Nitroso-Di-n-Propylamine	14000	U
67-72-1	Hexachloroethane	14000	U
98-95-3	Nitrobenzene	14000	U
78-59-1	Isophorone	14000	U
88-75-5	2-Nitrophenol	14000	U
105-67-9	2,4-Dimethylphenol	14000	U
65-85-0	Benzoic Acid	68000	U
111-91-1	bis(2-Chloroethoxy)Methane	14000	U
120-83-2	2,4-Dichlorophenol	14000	U
120-82-1	1,2,4-Trichlorobenzene	14000	U
91-20-3	Naphthalene	14000	U
106-47-8	4-Chloroaniline	14000	U
87-68-3	Hexachlorobutadiene	14000	U
59-50-7	4-Chloro-3-Methylphenol	14000	U
91-57-6	2-Methylnaphthalene	14000	U
77-47-4	Hexachlorocyclopentadiene	14000	U
88-06-2	2,4,6-Trichlorophenol	14000	U
95-95-4	2,4,5-Trichlorophenol	68000	U
91-58-7	2-Chloronaphthalene	14000	U
88-74-4	2-Nitroaniline	68000	U
131-11-3	Dimethyl Phthalate	14000	U
208-96-8	Acenaphthylene	14000	U
606-20-2	2,6-Dinitrotoluene	14000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR24

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596BR

ample wt/vol: 39.2 (g/mL) G Lab File ID: F4596BR

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 19 dec. 14 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/29/89

PC Cleanup: (Y/N) Y pH: 7.2 Dilution Factor: 24

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	68000	U
83-32-9	Acenaphthene	14000	U
51-28-5	2,4-Dinitrophenol	68000	U
100-02-7	4-Nitrophenol	68000	U
132-64-9	Dibenzofuran	14000	U
121-14-2	2,4-Dinitrotoluene	14000	U
84-66-2	Diethylphthalate	14000	U
7005-72-3	4-Chlorophenyl-phenylether	14000	U
86-73-7	Fluorene	14000	U
100-10-6	4-Nitroaniline	68000	U
534-52-1	4,6-Dinitro-2-Methylphenol	68000	U
86-30-6	N-Nitrosodiphenylamine (1)	14000	U
101-55-3	4-Bromophenyl-phenylether	14000	U
118-74-1	Hexachlorobenzene	14000	U
87-86-5	Pentachlorophenol	68000	U
85-01-8	Phenanthrene	14000	U
120-12-7	Anthracene	14000	U
84-74-2	Di-n-Butylphthalate	14000	U
206-44-0	Fluoranthene	14000	U
129-00-0	Pyrene	1500	J
85-68-7	Butylbenzylphthalate	14000	U
91-94-1	3,3'-Dichlorobenzidine	28000	U
56-55-3	Benzo(a)Anthracene	14000	U
218-01-9	Chrysene	14000	U
117-81-7	bis(2-Ethylhexyl)Phthalate	26000	
117-84-0	Di-n-Octyl Phthalate	14000	U
205-99-2	Benzo(b)Fluoranthene	14000	U
207-08-9	Benzo(k)Fluoranthene	14000	U
50-32-8	Benzo(a)Pyrene	14000	U
193-39-5	Indeno(1,2,3-cd)Pyrene	14000	U
53-70-3	Dibenz(a,h)Anthracene	14000	U
191-24-2	Benzo(g,h,i)Perylene	14000	U

(1) - Cannot be separated from Diphenylamine

000340

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR24

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596B

Sample wt/vol: 39.2 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 14 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: 7.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	14	U
319-85-7	beta-BHC	14	U
319-86-8	delta-BHC	14	U
58-89-9	gamma-BHC (Lindane)	14	U
76-44-8	Heptachlor	14	U
309-00-2	Aldrin	14	U
1024-57-3	Heptachlor epoxide	14	U
959-98-8	Endosulfan I	14	U
60-57-1	Dieldrin	28	U
72-55-9	4,4'-DDE	28	U
72-20-8	Endrin	89	U
33213-65-9	Endosulfan II	90	U
72-54-8	4,4'-DDD	28	U
1031-07-8	Endosulfan sulfate	28	U
50-29-3	4,4'-DDT	28	U
72-43-5	Methoxychlor	140	U
53494-70-5	Endrin ketone	28	U
5103-71-9	alpha-Chlordane	140	U
5103-74-2	gamma-Chlordane	140	U
8001-35-2	Toxaphene	280	U
12674-11-2	Aroclor-1016	140	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	140	U
12672-29-6	Aroclor-1248	140	U
11097-69-1	Aroclor-1254	5200	
11096-82-5	Aroclor-1260	280	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR24

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596B

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596B

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 19 Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 8

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 57)	20.95	920	J
2. -	UNKNOWN (BASE PEAK M/E 41)	21.37	910	J
3. -	UNKNOWN (HYDROCARBON M/E 41)	24.52	800	J
4. -	UNKNOWN (HYDROCARBON M/E 69)	25.87	1200	J
5. -	UNKNOWN (HYDROCARBON M/E 69)	26.33	910	J
6. -	UNKNOWN (HYDROCARBON M/E 150)	26.43	1100	J
7. -	UNKNOWN (HYDROCARBON M/E 41)	27.43	800	J
8. -	UNKNOWN (HYDROCARBON M/E 41)	27.90	1100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR24

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596BR

Sample wt/vol: 39.2 (g/mL) G Lab File ID: F4596BR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 19 dec. 14 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.2 Dilution Factor: 24

Number TICs found: 23

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (BASE PEAK M/E 135)	21.05	17000	J
2. -	UNKNOWN (BASE PEAK M/E 149)	21.18	64000	J
3. -	UNKNOWN (BASE PEAK M/E 149)	21.57	22000	J
4. -	UNKNOWN (BASE PEAK M/E 135)	21.70	16000	J
5. -	UNKNOWN (BASE PEAK M/E 193)	24.50	17000	J
6. -	UNKNOWN (BASE PEAK M/E 193)	26.32	29000	J
7. -	UNKNOWN (HYDROCARBON M/E 57)	27.85	30000	J
8. -	UNKNOWN (HYDROCARBON M/E 57)	28.77	54000	J
9. -	UNKNOWN (HYDROCARBON M/E 57)	29.43	19000	J
10. -	UNKNOWN (BASE PEAK M/E 55)	29.80	120000	J
11. -	UNKNOWN (HYDROCARBON M/E 57)	30.75	54000	J
12. -	UNKNOWN (HYDROCARBON M/E 57)	31.27	67000	J
13. -	UNKNOWN (HYDROCARBON M/E 57)	31.73	47000	J
14. -	UNKNOWN (HYDROCARBON M/E 57)	32.27	55000	J
15. -	UNKNOWN (HYDROCARBON M/E 57)	32.70	28000	J
16. -	UNKNOWN (HYDROCARBON M/E 57)	32.77	20000	J
17. -	UNKNOWN (HYDROCARBON M/E 57)	33.07	89000	J
18. -	UNKNOWN (BASE PEAK M/E 55)	33.18	24000	J
19. -	UNKNOWN (HYDROCARBON M/E 57)	33.27	55000	J
20. -	UNKNOWN (HYDROCARBON M/E 43)	33.77	29000	J
21. -	UNKNOWN (HYDROCARBON M/E 57)	33.85	37000	J
22. -	UNKNOWN (HYDROCARBON M/E 57)	34.30	24000	J
23. -	UNKNOWN (BASE PEAK M/E 69)	35.90	53000	J

11756 • 3-110-05

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725075

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5614

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	8	
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	9	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	26	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	160	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	18	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

11756 · 3-210-04

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725091

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4394

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

11756 • 3-210-10

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725091

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4394

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-5	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0198

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725091

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

11756 3-111-05

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CP882

ıd ıme: CLAYTON NOVI Contract: 68-09-0035

) Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

atrix: (soil/water) WATER Lab Sample ID: 725075

ıple wt/vol: 5.0 (g/mL) ML Lab File ID: E5614

evel: (low/med) LOW Date Received: 04/13/89

Moisture: not dec. ____ Date Analyzed: 04/13/89

lumn (pack/cap) PACK Dilution Factor: 1.0

nber TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725091

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4394

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725071

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5623

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	9	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	84	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725087

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4393

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725087

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4393

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0193

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725087

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725071

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5623

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725087

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4393

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725077

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5615

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	9	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725093

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4395

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

11756 • 3-210-12

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725093

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4395

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756 • 3-310-06

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725093

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725077

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5615

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CX870

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725093

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4395

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725079

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5622

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725095

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4396

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725095

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4396

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756 • 3-310-07

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725095

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725079

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5622

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

11756 • 3 -211-07

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725095

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4396

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0210

11756 • 3-110-01

VOLATILE ORGANICS 1A ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725065

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5611

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

11756•3-210-01

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725081

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4363

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725081

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4363

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756•3-310-01

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOUI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725081

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725065

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5611

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

11756•3-211-01

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CAR21

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725081

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4363

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

11756 • 3-110-02

?

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725067

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5612

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	8	
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	9	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	26	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	160	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	18	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725083

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4364

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

11756 3-210-04

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725083

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4364

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756 • 3-310-02

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725083

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

11756 • 3-111-02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725067

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5612

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

11756 • 3-211-02

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725083

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4364

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR29

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725069

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5613

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR29

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725085

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4392

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

11756 • 3-210-06

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR29

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725085

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4392

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0188

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR29

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725085

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	0.050 U
319-85-7	beta-BHC	0.050 U
319-86-8	delta-BHC	0.050 U
58-89-9	gamma-BHC (Lindane)	0.050 U
76-44-8	Heptachlor	0.050 U
309-00-2	Aldrin	0.050 U
1024-57-3	Heptachlor epoxide	0.050 U
959-98-8	Endosulfan I	0.050 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4'-DDD	0.10 U
1031-07-8	Endosulfan sulfate	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	Methoxychlor	0.50 U
53494-70-5	Endrin ketone	0.10 U
5103-71-9	alpha-Chlordane	0.50 U
5103-74-2	gamma-Chlordane	0.50 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor-1016	0.50 U
11104-28-2	Aroclor-1221	0.50 U
11141-16-5	Aroclor-1232	0.50 U
53469-21-9	Aroclor-1242	0.50 U
12672-29-6	Aroclor-1248	0.50 U
11097-69-1	Aroclor-1254	1.0 U
11096-82-5	Aroclor-1260	1.0 U

11756 · 3-111-04-03

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 05/09/89 CLJ

CAR29

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725069

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5613

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1F

EPA SAMPLE NO.

CAR29

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725085

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4392

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596D

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596D

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 25 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1600	U
74-83-9	Bromomethane	1600	U
75-01-4	Vinyl Chloride	1600	U
75-00-3	Chloroethane	1600	U
75-09-2	Methylene Chloride	620	BJ
67-64-1	Acetone	620	BJ
75-15-0	Carbon Disulfide	810	U
75-35-4	1,1-Dichloroethene	810	U
75-35-3	1,1-Dichloroethane	810	U
540-59-0	1,2-Dichloroethene (total)	810	U
67-66-3	Chloroform	810	U
107-06-2	1,2-Dichloroethane	810	U
78-93-3	2-Butanone	1600	U
71-55-6	1,1,1-Trichloroethane	2600	
56-23-5	Carbon Tetrachloride	810	U
108-05-4	Vinyl Acetate	1600	U
75-27-4	Bromodichloromethane	810	U
78-87-5	1,2-Dichloropropane	810	U
10061-01-5	cis-1,3-Dichloropropene	810	U
79-01-6	Trichloroethene	8600	
124-48-1	Dibromochloromethane	810	U
79-00-5	1,1,2-Trichloroethane	810	U
71-43-2	Benzene	810	U
10061-02-6	Trans-1,3-Dichloropropene	810	U
75-25-2	Bromoform	810	U
108-10-1	4-Methyl-2-Pentanone	1600	U
591-78-6	2-Hexanone	1600	U
127-18-4	Tetrachloroethene	52000	E
79-34-5	1,1,2,2-Tetrachloroethane	1600	U
108-88-3	Toluene	810	U
108-90-7	Chlorobenzene	810	U
100-41-4	Ethylbenzene	810	U
100-42-5	Styrene	810	U
1330-20-7	Total Xylenes	810	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596DR

Sample wt/vol: 46.5 (g/mL) G Lab File ID: F4596DR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2800	U
111-44-4	bis(2-Chloroethyl)Ether	2800	U
95-57-8	2-Chlorophenol	2800	U
541-73-1	1,3-Dichlorobenzene	2800	U
106-46-7	1,4-Dichlorobenzene	2800	U
100-51-6	Benzyl Alcohol	2800	U
95-50-1	1,2-Dichlorobenzene	2800	U
95-48-7	2-Methylphenol	2800	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2800	U
106-44-5	4-Methylphenol	2800	U
621-64-7	N-Nitroso-Di-n-Propylamine	2800	U
67-72-1	Hexachloroethane	2800	U
98-95-3	Nitrobenzene	2800	U
78-59-1	Isophorone	2800	U
88-75-5	2-Nitrophenol	2800	U
105-67-9	2,4-Dimethylphenol	2800	U
65-85-0	Benzoic Acid	14000	U
111-91-1	bis(2-Chloroethoxy)Methane	2800	U
120-83-2	2,4-Dichlorophenol	2800	U
120-82-1	1,2,4-Trichlorobenzene	2800	U
91-20-3	Naphthalene	2800	U
106-47-8	4-Chloroaniline	2800	U
87-68-3	Hexachlorobutadiene	2800	U
59-50-7	4-Chloro-3-Methylphenol	2800	U
91-57-6	2-Methylnaphthalene	2800	U
77-47-4	Hexachlorocyclopentadiene	2800	U
88-06-2	2,4,6-Trichlorophenol	2800	U
95-95-4	2,4,5-Trichlorophenol	14000	U
91-58-7	2-Chloronaphthalene	2800	U
88-74-4	2-Nitroaniline	14000	U
131-11-3	Dimethyl Phthalate	2800	U
208-96-8	Acenaphthylene	2800	U
606-20-2	2,6-Dinitrotoluene	2800	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596DR

Sample wt/vol: 46.5 (g/mL) G Lab File ID: F4596DR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	14000	U
83-32-9	Acenaphthene	2800	U
51-28-5	2,4-Dinitrophenol	14000	U
100-02-7	4-Nitrophenol	14000	U
132-64-9	Dibenzofuran	2800	U
121-14-2	2,4-Dinitrotoluene	2800	U
84-66-2	Diethylphthalate	2800	U
7005-72-3	4-Chlorophenyl-phenylether	2800	U
86-73-7	Fluorene	2800	U
100-10-6	4-Nitroaniline	14000	U
534-52-1	4,6-Dinitro-2-Methylphenol	14000	U
86-30-6	N-Nitrosodiphenylamine (1)	2800	U
101-55-3	4-Bromophenyl-phenylether	2800	U
118-74-1	Hexachlorobenzene	2800	U
87-86-5	Pentachlorophenol	14000	U
85-01-8	Phenanthrene	2800	U
120-12-7	Anthracene	2800	U
84-74-2	Di-n-Butylphthalate	2800	U
206-44-0	Fluoranthene	2800	U
129-00-0	Pyrene	2800	U
85-68-7	Butylbenzylphthalate	2800	U
91-94-1	3,3'-Dichlorobenzidine	5700	U
56-55-3	Benzo(a)Anthracene	2800	U
218-01-9	Chrysene	610	J
117-81-7	bis(2-Ethylhexyl)Phthalate	430	J
117-84-0	Di-n-Octyl Phthalate	2800	U
205-99-2	Benzo(b)Fluoranthene	2800	U
207-08-9	Benzo(k)Fluoranthene	2800	U
50-32-8	Benzo(a)Pyrene	2800	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2800	U
53-70-3	Dibenz(a,h)Anthracene	2800	U
191-24-2	Benzo(g,h,i)Perylene	2800	U

(1) - Cannot be separated from Diphenylamine

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596D

Sample wt/vol: 46.5 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 25 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	14	U
319-85-7	beta-BHC	14	U
319-86-8	delta-BHC	14	U
58-89-9	gamma-BHC (Lindane)	14	U
76-44-8	Heptachlor	14	U
309-00-2	Aldrin	14	U
1024-57-3	Heptachlor epoxide	14	U
959-98-8	Endosulfan I	14	U
60-57-1	Dieldrin	28	U
72-55-9	4,4'-DDE	28	U
72-20-8	Endrin	28	U
33213-65-9	Endosulfan II	28	U
72-54-8	4,4'-DDD	28	U
1031-07-8	Endosulfan sulfate	28	U
50-29-3	4,4'-DDT	28	U
72-43-5	Methoxychlor	140	U
53494-70-5	Endrin ketone	28	U
5103-71-9	alpha-Chlordane	140	U
5103-74-2	gamma-Chlordane	140	U
8001-35-2	Toxaphene	280	U
12674-11-2	Aroclor-1016	140	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	140	U
12672-29-6	Aroclor-1248	140	U
11097-69-1	Aroclor-1254	280	U
11096-82-5	Aroclor-1260	280	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596D

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596D

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 25 Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 43)	18.10	2000	J
2. -	UNKNOWN (HYDROCARBON M/E 69)	18.38	4500	J
3. -	UNKNOWN (HYDROCARBON M/E 69)	19.40	4100	J
4. -	UNKNOWN (HYDROCARBON M/E 55)	19.80	4700	J
5. -	UNKNOWN (HYDROCARBON M/E 69)	20.25	2000	J
6. -	UNKNOWN (HYDROCARBON M/E 55)	20.57	3400	J
7. -	UNKNOWN (HYDROCARBON M/E 57)	20.93	4500	J
8. -	UNKNOWN (HYDROCARBON M/E 69)	21.37	4100	J
9. -	UNKNOWN (HYDROCARBON M/E 69)	22.40	1300	J
10. -	UNKNOWN (HYDROCARBON M/E 67)	22.80	940	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR26

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596DR

Sample wt/vol: 46.5 (g/mL) G Lab File ID: F4596DR

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 57)	21.17	14000	J
2. -	UNKNOWN (HYDROCARBON M/E 57)	22.47	9700	J
3. -	UNKNOWN (HYDROCARBON M/E 57)	22.60	15000	J
4. -	UNKNOWN (HYDROCARBON M/E 57)	23.72	12000	J
5. -	UNKNOWN (HYDROCARBON M/E 57)	23.80	14000	J
6. -	UNKNOWN (HYDROCARBON M/E 57)	25.08	12000	J
7. -	UNKNOWN (HYDROCARBON M/E 57)	26.05	32000	J
8. -	UNKNOWN (HYDROCARBON M/E 57)	26.32	11000	J
9. -	UNKNOWN (HYDROCARBON M/E 57)	26.73	15000	J
10. -	UNKNOWN (HYDROCARBON M/E 57)	27.18	17000	J
11. -	UNKNOWN (HYDROCARBON M/E 55)	27.63	12000	J
12. -	UNKNOWN (HYDROCARBON M/E 55)	27.70	12000	J
13. -	UNKNOWN (HYDROCARBON M/E 57)	27.93	27000	J
14. -	UNKNOWN (HYDROCARBON M/E 57)	28.22	16000	J
15. -	UNKNOWN (HYDROCARBON M/E 57)	28.83	34000	J
16. -	UNKNOWN (HYDROCARBON M/E 57)	29.05	18000	J
17. -	UNKNOWN (HYDROCARBON M/E 57)	29.22	8700	J
18. -	UNKNOWN (HYDROCARBON M/E 83)	29.52	7800	J
19. -	UNKNOWN (HYDROCARBON M/E 57)	29.80	14000	J
20. -	UNKNOWN (HYDROCARBON M/E 57)	29.95	11000	J
21. -	UNKNOWN (HYDROCARBON M/E 57)	30.73	20000	J
22. -	UNKNOWN (HYDROCARBON M/E 57)	31.32	18000	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR27

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596E

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596E

_evel: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 33 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	3500	U
74-83-9	Bromomethane	3500	U
75-01-4	Vinyl Chloride	3500	U
75-00-3	Chloroethane	3500	U
75-09-2	Methylene Chloride	660	BJ
67-64-1	Acetone	800	BJ
75-15-0	Carbon Disulfide	1800	U
75-35-4	1,1-Dichloroethene	1800	U
75-35-3	1,1-Dichloroethane	1800	U
540-59-0	1,2-Dichloroethene (total)	1800	U
67-66-3	Chloroform	1800	U
107-06-2	1,2-Dichloroethane	1800	U
78-93-3	2-Butanone	3500	U
71-55-6	1,1,1-Trichloroethane	2600	
56-23-5	Carbon Tetrachloride	1800	U
108-05-4	Vinyl Acetate	3500	U
75-27-4	Bromodichloromethane	1800	U
78-87-5	1,2-Dichloropropane	1800	U
10061-01-5	cis-1,3-Dichloropropene	1800	U
79-01-6	Trichloroethene	7800	
124-48-1	Dibromochloromethane	1800	U
79-00-5	1,1,2-Trichloroethane	1800	U
71-43-2	Benzene	1800	U
10061-02-6	Trans-1,3-Dichloropropene	1800	U
75-25-2	Bromoform	1800	U
108-10-1	4-Methyl-2-Pentanone	3500	U
591-78-6	2-Hexanone	3500	U
127-18-4	Tetrachloroethene	43000	
79-34-5	1,1,2,2-Tetrachloroethane	3500	U
108-88-3	Toluene	1800	U
108-90-7	Chlorobenzene	1800	U
100-41-4	Ethylbenzene	1800	U
100-42-5	Styrene	1800	U
1330-20-7	Total Xylenes	1800	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR27

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596ER

Sample wt/vol: 47.3 (g/mL) G Lab File ID: F4596ER

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2600	U
111-44-4	bis(2-Chloroethyl)Ether	2600	U
95-57-8	2-Chlorophenol	2600	U
541-73-1	1,3-Dichlorobenzene	2600	U
106-46-7	1,4-Dichlorobenzene	2600	U
100-51-6	Benzyl Alcohol	2600	U
95-50-1	1,2-Dichlorobenzene	2600	U
95-48-7	2-Methylphenol	2600	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2600	U
106-44-5	4-Methylphenol	2600	U
621-64-7	N-Nitroso-Di-n-Propylamine	2600	U
67-72-1	Hexachloroethane	2600	U
98-95-3	Nitrobenzene	2600	U
78-59-1	Isophorone	2600	U
88-75-5	2-Nitrophenol	2600	U
105-67-9	2,4-Dimethylphenol	2600	U
65-85-0	Benzoic Acid	13000	U
111-91-1	bis(2-Chloroethoxy)Methane	2600	U
120-83-2	2,4-Dichlorophenol	2600	U
120-82-1	1,2,4-Trichlorobenzene	2600	U
91-20-3	Naphthalene	2600	U
106-47-8	4-Chloroaniline	2600	U
87-68-3	Hexachlorobutadiene	2600	U
59-50-7	4-Chloro-3-Methylphenol	2600	U
91-57-6	2-Methylnaphthalene	2600	U
77-47-4	Hexachlorocyclopentadiene	2600	U
88-06-2	2,4,6-Trichlorophenol	2600	U
95-95-4	2,4,5-Trichlorophenol	13000	U
91-58-7	2-Chloronaphthalene	2600	U
88-74-4	2-Nitroaniline	13000	U
131-11-3	Dimethyl Phthalate	2600	U
208-96-8	Acenaphthylene	2600	U
606-20-2	2,6-Dinitrotoluene	2600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR27

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596ER

Sample wt/vol: 47.3 (g/mL) G Lab File ID: F4596ER

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	13000	U
83-32-9	Acenaphthene	2600	U
51-28-5	2,4-Dinitrophenol	13000	U
100-02-7	4-Nitrophenol	13000	U
132-64-9	Dibenzofuran	2600	U
121-14-2	2,4-Dinitrotoluene	2600	U
84-66-2	Diethylphthalate	2600	U
7005-72-3	4-Chlorophenyl-phenylether	2600	U
86-73-7	Fluorene	2600	U
100-10-6	4-Nitroaniline	13000	U
534-52-1	4,6-Dinitro-2-Methylphenol	13000	U
86-30-6	N-Nitrosodiphenylamine (1)	2600	U
101-55-3	4-Bromophenyl-phenylether	2600	U
118-74-1	Hexachlorobenzene	2600	U
87-86-5	Pentachlorophenol	13000	U
85-01-8	Phenanthrene	2600	U
120-12-7	Anthracene	2600	U
84-74-2	Di-n-Butylphthalate	2600	U
206-44-0	Fluoranthene	2600	U
129-00-0	Pyrene	2600	U
85-68-7	Butylbenzylphthalate	2600	U
91-94-1	3,3'-Dichlorobenzidine	5200	U
56-55-3	Benzo(a)Anthracene	2600	U
218-01-9	Chrysene	470	J
117-81-7	bis(2-Ethylhexyl)Phthalate	270	J
117-84-0	Di-n-Octyl Phthalate	2600	U
205-99-2	Benzo(b)Fluoranthene	2600	U
207-08-9	Benzo(k)Fluoranthene	2600	U
50-32-8	Benzo(a)Pyrene	2600	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2600	U
53-70-3	Dibenz(a,h)Anthracene	2600	U
191-24-2	Benzo(g,h,i)Perylene	2600	U

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR27

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596E

ample wt/vol: 47.3 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 25 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

PC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	13	U
319-85-7	beta-BHC	13	U
319-86-8	delta-BHC	13	U
58-89-9	gamma-BHC (Lindane)	13	U
76-44-8	Heptachlor	13	U
309-00-2	Aldrin	13	U
1024-57-3	Heptachlor epoxide	13	U
959-98-8	Endosulfan I	13	U
60-57-1	Dieldrin	25	U
72-55-9	4,4'-DDE	25	U
72-20-8	Endrin	25	U
33213-65-9	Endosulfan II	25	U
72-54-8	4,4'-DDD	25	U
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	25	U
72-43-5	Methoxychlor	130	U
53494-70-5	Endrin ketone	25	U
5103-71-9	alpha-Chlordane	130	U
5103-74-2	gamma-Chlordane	130	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	130	U
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR27

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596E

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596E

evel: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 33 Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 2.0

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 69)	18.38	3100	J
2. -	UNKNOWN (HYDROCARBON M/E 69)	19.40	3100	J
3. -	UNKNOWN (HYDROCARBON M/E 55)	20.58	3600	J
4. -	UNKNOWN (HYDROCARBON M/E 57)	20.95	3200	J
5. -	UNKNOWN (HYDROCARBON M/E 67)	21.37	2900	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR27

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596ER

Sample wt/vol: 47.3 (g/mL) G Lab File ID: F4596ER

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 25 dec. 20 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/28/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 57)	21.15	8600	J
2. -	UNKNOWN (HYDROCARBON M/E 57)	22.60	11000	J
3. -	UNKNOWN (HYDROCARBON M/E 57)	23.70	8600	J
4. -	UNKNOWN (HYDROCARBON M/E 57)	23.78	8800	J
5. -	UNKNOWN (HYDROCARBON M/E 57)	25.07	6200	J
6. -	UNKNOWN (HYDROCARBON M/E 57)	26.03	14000	J
7. -	UNKNOWN (HYDROCARBON M/E 57)	26.30	9200	J
8. -	UNKNOWN (HYDROCARBON M/E 57)	26.70	19000	J
9. -	UNKNOWN (HYDROCARBON M/E 57)	27.15	13000	J
10. -	UNKNOWN (HYDROCARBON M/E 83)	27.60	7700	J
11. -	UNKNOWN (HYDROCARBON M/E 57)	27.90	19000	J
12. -	UNKNOWN (HYDROCARBON M/E 57)	28.18	11000	J
13. -	UNKNOWN (HYDROCARBON M/E 57)	28.80	25000	J
14. -	UNKNOWN (HYDROCARBON M/E 57)	29.02	11000	J
15. -	UNKNOWN (HYDROCARBON M/E 83)	29.48	8100	J
16. -	UNKNOWN (HYDROCARBON M/E 57)	29.77	12000	J
17. -	UNKNOWN (HYDROCARBON M/E 57)	29.92	9700	J
18. -	UNKNOWN (HYDROCARBON M/E 57)	30.72	17000	J
19. -	UNKNOWN (HYDROCARBON M/E 57)	31.28	15000	J
20. -	UNKNOWN (HYDROCARBON M/E 57)	32.27	15000	J
21. -	UNKNOWN (HYDROCARBON M/E 57)	33.03	12000	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596FRE

ample wt/vol: 5.3 (g/mL) G Lab File ID: F1596FRE

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 33 Date Analyzed: 05/05/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-35-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596F

Sample wt/vol: 68.5 (g/mL) G Lab File ID: F4596F

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)Ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
100-51-6	Benzyl Alcohol	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
39638-32-9	bis(2-Chloroisopropyl)Ether	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-Di-n-Propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596F

Sample wt/vol: 68.5 (g/mL) G Lab File ID: F4596F

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-10-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-Butylphthalate	390	U
206-44-0	Fluoranthene	390	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	770	U
56-55-3	Benzo(a)Anthracene	390	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)Phthalate	390	U
117-84-0	Di-n-Octyl Phthalate	390	U
205-99-2	Benzo(b)Fluoranthene	390	U
207-08-9	Benzo(k)Fluoranthene	390	U
50-32-8	Benzo(a)Pyrene	390	U
193-39-5	Indeno(1,2,3-cd)Pyrene	390	U
53-70-3	Dibenz(a,h)Anthracene	390	U
191-24-2	Benzo(g,h,i)Perylene	390	U

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596F

Sample wt/vol: 65.7 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.7	U
319-85-7	beta-BHC	9.7	U
319-86-8	delta-BHC	9.7	U
58-89-9	gamma-BHC (Lindane)	9.7	U
76-44-8	Heptachlor	9.7	U
309-00-2	Aldrin	9.7	U
1024-57-3	Heptachlor epoxide	9.7	U
959-98-8	Endosulfan I	9.7	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	97	U
53494-70-5	Endrin ketone	19	U
5103-71-9	alpha-Chlordane	97	U
5103-74-2	gamma-Chlordane	97	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	97	U
11104-28-2	Aroclor-1221	97	U
11141-16-5	Aroclor-1232	97	U
53469-21-9	Aroclor-1242	97	U
12672-29-6	Aroclor-1248	97	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FRE

Sample wt/vol: 5.3 (g/mL) G Lab File ID: F1596FRE

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 Date Analyzed: 05/05/89

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (BASE PEAK M/E 79)	19.60	18	J
2. -	UNKNOWN (BASE PEAK M/E 93)	23.87	360	J
3. -	UNKNOWN (BASE PEAK M/E 93)	24.43	370	J
4. -	UNKNOWN (BASE PEAK M/E 93)	26.87	14	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596F

Sample wt/vol: 68.5 (g/mL) G Lab File ID: F4596F

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (BASE PEAK M/E 93)	7.70	1400	J
2. -	UNKNOWN (BASE PEAK M/E 172)	19.82	760	J
3. -	UNKNOWN (BASE PEAK M/E 172)	20.12	480	J
4. -	UNKNOWN (HYDROCARBON M/E 55)	24.33	760	J
5. -	UNKNOWN (HYDROCARBON M/E 73)	24.47	780	J
6. -	UNKNOWN (HYDROCARBON M/E 95)	25.83	1000	J
7. -	UNKNOWN (HYDROCARBON M/E 67)	26.52	340	J
8. -	UNKNOWN (HYDROCARBON M/E 55)	26.60	930	J
9. -	UNKNOWN (BASE PEAK M/E 59)	26.77	250	J
10. -	UNKNOWN (BASE PEAK M/E 83)	26.93	310	J
11. -	UNKNOWN (BASE PEAK M/E 59)	29.05	3700	J
12. -	UNKNOWN (BASE PEAK M/E 205)	29.18	690	J
13. -	UNKNOWN (BASE PEAK M/E 187)	29.27	310	J
14. -	UNKNOWN (BASE PEAK M/E 95)	29.40	2300	J
15. -	UNKNOWN (BASE PEAK M/E 95)	29.58	510	J
16. -	UNKNOWN (BASE PEAK M/E 83)	31.70	620	J
17. -	UNKNOWN (BASE PEAK M/E 43)	32.43	1700	J
18. -	UNKNOWN (BASE PEAK M/E 83)	34.75	1100	J
19. -	UNKNOWN (BASE PEAK M/E 83)	37.43	630	J
20. -	UNKNOWN (HYDROCARBON M/E 43)	38.07	880	J
21. -	UNKNOWN (HYDROCARBON M/E 69)	39.55	1100	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CW137

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F1596C

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. _____ Date Analyzed: 05/05/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CW137

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F1596C

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. ____ Date Analyzed: 05/05/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23MS

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596AMS

Sample wt/vol: 4.0 (g/mL) G Lab File ID: F5596AMS

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 19 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	470	BJ
67-64-1	Acetone	550	BJ
75-15-0	Carbon Disulfide	770	U
75-35-4	1,1-Dichloroethene	770	U
75-35-3	1,1-Dichloroethane	770	U
540-59-0	1,2-Dichloroethene (total)	770	U
67-66-3	Chloroform	770	U
107-06-2	1,2-Dichloroethane	770	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	250	J
56-23-5	Carbon Tetrachloride	770	U
108-05-4	Vinyl Acetate	1500	U
75-27-4	Bromodichloromethane	770	U
78-87-5	1,2-Dichloropropane	770	U
10061-01-5	cis-1,3-Dichloropropene	770	U
79-01-6	Trichloroethene	770	U
124-48-1	Dibromochloromethane	770	U
79-00-5	1,1,2-Trichloroethane	770	U
71-43-2	Benzene	770	U
10061-02-6	Trans-1,3-Dichloropropene	770	U
75-25-2	Bromoform	770	U
108-10-1	4-Methyl-2-Pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	21000	
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	770	U
108-90-7	Chlorobenzene	770	U
100-41-4	Ethylbenzene	770	U
100-42-5	Styrene	770	U
1330-20-7	Total Xylenes	770	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR26DL

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596DDL

ample wt/vol: 4.1 (g/mL) G Lab File ID: F5596DDL

evel: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 25 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	3100	U
74-83-9	Bromomethane	3100	U
75-01-4	Vinyl Chloride	3100	U
75-00-3	Chloroethane	3100	U
75-09-2	Methylene Chloride	1000	BDJ
67-64-1	Acetone	1300	BDJ
75-15-0	Carbon Disulfide	1600	U
75-35-4	1,1-Dichloroethene	1600	U
75-35-3	1,1-Dichloroethane	1600	U
540-59-0	1,2-Dichloroethene (total)	1600	U
67-66-3	Chloroform	1600	U
107-06-2	1,2-Dichloroethane	1600	U
78-93-3	2-Butanone	3100	U
71-55-6	1,1,1-Trichloroethane	2800	D
56-23-5	Carbon Tetrachloride	1600	U
108-05-4	Vinyl Acetate	3100	U
75-27-4	Bromodichloromethane	1600	U
78-87-5	1,2-Dichloropropane	1600	U
10061-01-5	cis-1,3-Dichloropropene	1600	U
79-01-6	Trichloroethene	7700	D
124-48-1	Dibromochloromethane	1600	U
79-00-5	1,1,2-Trichloroethane	1600	U
71-43-2	Benzene	1600	U
10061-02-6	Trans-1,3-Dichloropropene	1600	U
75-25-2	Bromoform	1600	U
108-10-1	4-Methyl-2-Pentanone	3100	U
591-78-6	2-Hexanone	3100	U
127-18-4	Tetrachloroethene	44000	D
79-34-5	1,1,2,2-Tetrachloroethane	3100	U
108-88-3	Toluene	1600	U
108-90-7	Chlorobenzene	1600	U
100-41-4	Ethylbenzene	1600	U
100-42-5	Styrene	1600	U
1330-20-7	Total Xylenes	1600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR26DL

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: S96DDL

Sample wt/vol: 4.1 (g/mL) G Lab File ID: F5596DDL

evel: (low/med) MED Date Received: 05/03/89

Moisture: not dec. 25 Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 2.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 57)	18.10	1600	J
2. -	UNKNOWN (HYDROCARBON M/E 69)	18.40	3400	J
3. -	UNKNOWN (HYDROCARBON M/E 69)	19.42	3100	J
4. -	UNKNOWN (HYDROCARBON M/E 55)	20.58	3800	J
5. -	UNKNOWN (HYDROCARBON M/E 57)	20.95	3200	J
6. -	UNKNOWN (HYDROCARBON M/E 67)	21.38	3000	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MS

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FMS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F1596FMS

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 Date Analyzed: 05/05/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	7	BJ
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-35-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MS

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FMS

Sample wt/vol: 60.7 (g/mL) G Lab File ID: F4596FMS

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	440	U
111-44-4	bis(2-Chloroethyl)Ether	440	U
95-57-8	2-Chlorophenol	440	U
541-73-1	1,3-Dichlorobenzene	440	U
106-46-7	1,4-Dichlorobenzene	440	U
100-51-6	Benzyl Alcohol	440	U
95-50-1	1,2-Dichlorobenzene	440	U
95-48-7	2-Methylphenol	440	U
39638-32-9	bis(2-Chloroisopropyl)Ether	440	U
106-44-5	4-Methylphenol	440	U
621-64-7	N-Nitroso-Di-n-Propylamine	440	U
67-72-1	Hexachloroethane	440	U
98-95-3	Nitrobenzene	440	U
78-59-1	Isophorone	440	U
88-75-5	2-Nitrophenol	440	U
105-67-9	2,4-Dimethylphenol	440	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)Methane	440	U
120-83-2	2,4-Dichlorophenol	440	U
120-82-1	1,2,4-Trichlorobenzene	440	U
91-20-3	Naphthalene	440	U
106-47-8	4-Chloroaniline	440	U
87-68-3	Hexachlorobutadiene	440	U
59-50-7	4-Chloro-3-Methylphenol	440	U
91-57-6	2-Methylnaphthalene	440	U
77-47-4	Hexachlorocyclopentadiene	440	U
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	440	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethyl Phthalate	440	U
208-96-8	Acenaphthylene	440	U
606-20-2	2,6-Dinitrotoluene	440	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MS

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FMS

Sample wt/vol: 60.7 (g/mL) G Lab File ID: F4596FMS

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	440	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	440	U
121-14-2	2,4-Dinitrotoluene	440	U
84-66-2	Diethylphthalate	440	U
7005-72-3	4-Chlorophenyl-phenylether	440	U
86-73-7	Fluorene	440	U
100-10-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-Methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	440	U
101-55-3	4-Bromophenyl-phenylether	440	U
118-74-1	Hexachlorobenzene	440	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	440	U
120-12-7	Anthracene	440	U
84-74-2	Di-n-Butylphthalate	440	U
206-44-0	Fluoranthene	440	U
129-00-0	Pyrene	440	U
85-68-7	Butylbenzylphthalate	440	U
91-94-1	3,3'-Dichlorobenzidine	870	U
56-55-3	Benzo(a)Anthracene	440	U
218-01-9	Chrysene	440	U
117-81-7	bis(2-Ethylhexyl)Phthalate	440	U
117-84-0	Di-n-Octyl Phthalate	440	U
205-99-2	Benzo(b)Fluoranthene	440	U
207-08-9	Benzo(k)Fluoranthene	440	U
50-32-8	Benzo(a)Pyrene	440	U
193-39-5	Indeno(1,2,3-cd)Pyrene	440	U
53-70-3	Dibenz(a,h)Anthracene	440	U
191-24-2	Benzo(g,h,i)Perylene	440	U

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MS

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 596FMS

ample wt/vol: 60.7 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

PC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	21	U
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
33213-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	21	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	210	U
11096-82-5	Aroclor-1260	210	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR23MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596AMSD

Sample wt/vol: 4.0 (g/mL) G Lab File ID: F5596AMSD

Level: (low/med) MED Date Received: 05/03/89

% Moisture: not dec. 19 Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	720	BJ
67-64-1	Acetone	440	BJ
75-15-0	Carbon Disulfide	770	U
75-35-4	1,1-Dichloroethene	770	U
75-35-3	1,1-Dichloroethane	770	U
540-59-0	1,2-Dichloroethene (total)	770	U
67-66-3	Chloroform	770	U
107-06-2	1,2-Dichloroethane	770	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	280	J
56-23-5	Carbon Tetrachloride	770	U
108-05-4	Vinyl Acetate	1500	U
75-27-4	Bromodichloromethane	770	U
78-87-5	1,2-Dichloropropane	770	U
10061-01-5	cis-1,3-Dichloropropene	770	U
79-01-6	Trichloroethene	770	U
124-48-1	Dibromochloromethane	770	U
79-00-5	1,1,2-Trichloroethane	770	U
71-43-2	Benzene	770	U
10061-02-6	Trans-1,3-Dichloropropene	770	U
75-25-2	Bromoform	770	U
108-10-1	4-Methyl-2-Pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	22000	
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	770	U
108-90-7	Chlorobenzene	770	U
100-41-4	Ethylbenzene	770	U
100-42-5	Styrene	770	U
1330-20-7	Total Xylenes	770	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FMSD

Sample wt/vol: 5.2 (g/mL) G Lab File ID: F1596FMSD

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 Date Analyzed: 05/05/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-97-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	7	BJ
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-35-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MSD

Sample wt/vol: 57.0 (g/mL) G Lab File ID: F4596FMSD

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	460	U
111-44-4	bis(2-Chloroethyl)Ether	460	U
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4-Dichlorobenzene	460	U
100-51-6	Benzyl Alcohol	460	U
95-50-1	1,2-Dichlorobenzene	460	U
95-48-7	2-Methylphenol	460	U
39638-32-9	bis(2-Chloroisopropyl)Ether	460	U
106-44-5	4-Methylphenol	460	U
621-64-7	N-Nitroso-Di-n-Propylamine	460	U
67-72-1	Hexachloroethane	460	U
98-95-3	Nitrobenzene	460	U
78-59-1	Isophorone	460	U
88-75-5	2-Nitrophenol	460	U
105-67-9	2,4-Dimethylphenol	460	U
65-85-0	Benzoic Acid	2200	U
111-91-1	bis(2-Chloroethoxy)Methane	460	U
120-83-2	2,4-Dichlorophenol	460	U
120-82-1	1,2,4-Trichlorobenzene	460	U
91-20-3	Naphthalene	460	U
106-47-8	4-Chloroaniline	460	U
87-68-3	Hexachlorobutadiene	460	U
59-50-7	4-Chloro-3-Methylphenol	460	U
91-57-6	2-Methylnaphthalene	460	U
77-47-4	Hexachlorocyclopentadiene	460	U
88-06-2	2,4,6-Trichlorophenol	460	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethyl Phthalate	460	U
208-96-8	Acenaphthylene	460	U
606-20-2	2,6-Dinitrotoluene	460	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MSD

Sample wt/vol: 57.0 (g/mL) G Lab File ID: F4596FMSD

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	460	U
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	460	U
121-14-2	2,4-Dinitrotoluene	460	U
84-66-2	Diethylphthalate	460	U
7005-72-3	4-Chlorophenyl-phenylether	460	U
86-73-7	Fluorene	460	U
100-10-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-Methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	460	U
101-55-3	4-Bromophenyl-phenylether	460	U
118-74-1	Hexachlorobenzene	460	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	460	U
120-12-7	Anthracene	460	U
84-74-2	Di-n-Butylphthalate	460	U
206-44-0	Fluoranthene	460	U
129-00-0	Pyrene	460	U
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	920	U
56-55-3	Benzo(a)Anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	bis(2-Ethylhexyl)Phthalate	460	U
117-84-0	Di-n-Octyl Phthalate	460	U
205-99-2	Benzo(b)Fluoranthene	460	U
207-08-9	Benzo(k)Fluoranthene	460	U
50-32-8	Benzo(a)Pyrene	460	U
193-39-5	Indeno(1,2,3-cd)Pyrene	460	U
53-70-3	Dibenz(a,h)Anthracene	460	U
191-24-2	Benzo(g,h,i)Perylene	460	U

(1) - Cannot be separated from Diphenylamine

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR28MSD

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596FMSD

Sample wt/vol: 68.5 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

% Moisture: not dec. 33 dec. 25 Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.3	U
319-85-7	beta-BHC	9.3	U
319-86-8	delta-BHC	9.3	U
58-89-9	gamma-BHC (Lindane)	9.3	U
76-44-8	Heptachlor	9.3	U
309-00-2	Aldrin	9.3	U
1024-57-3	Heptachlor epoxide	9.3	U
959-98-8	Endosulfan I	9.[illegible]	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	93	U
53494-70-5	Endrin ketone	19	U
5103-71-9	alpha-Chlordane	93	U
5103-74-2	gamma-Chlordane	93	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	93	U
11104-28-2	Aroclor-1221	93	U
11141-16-5	Aroclor-1232	93	U
53469-21-9	Aroclor-1242	93	U
12672-29-6	Aroclor-1248	93	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MB

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F4596MB

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	660	U
111-44-4	bis(2-Chloroethyl)Ether	660	U
95-57-8	2-Chlorophenol	660	U
541-73-1	1,3-Dichlorobenzene	660	U
106-46-7	1,4-Dichlorobenzene	660	U
100-51-6	Benzyl Alcohol	660	U
95-50-1	1,2-Dichlorobenzene	660	U
95-48-7	2-Methylphenol	660	U
39638-32-9	bis(2-Chloroisopropyl)Ether	660	U
106-44-5	4-Methylphenol	660	U
621-64-7	N-Nitroso-Di-n-Propylamine	660	U
67-72-1	Hexachloroethane	660	U
98-95-3	Nitrobenzene	660	U
78-59-1	Isophorone	660	U
88-75-5	2-Nitrophenol	660	U
105-67-9	2,4-Dimethylphenol	660	U
65-85-0	Benzoic Acid	3200	U
111-91-1	bis(2-Chloroethoxy)Methane	660	U
120-83-2	2,4-Dichlorophenol	660	U
120-82-1	1,2,4-Trichlorobenzene	660	U
91-20-3	Naphthalene	660	U
106-47-8	4-Chloroaniline	660	U
87-68-3	Hexachlorobutadiene	660	U
59-50-7	4-Chloro-3-Methylphenol	660	U
91-57-6	2-Methylnaphthalene	660	U
77-47-4	Hexachlorocyclopentadiene	660	U
88-06-2	2,4,6-Trichlorophenol	660	U
95-95-4	2,4,5-Trichlorophenol	3200	U
91-58-7	2-Chloronaphthalene	660	U
88-74-4	2-Nitroaniline	3200	U
131-11-3	Dimethyl Phthalate	660	U
208-96-8	Acenaphthylene	660	U
606-20-2	2,6-Dinitrotoluene	660	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MB

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F4596MB

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3200	U
83-32-9	Acenaphthene	660	U
51-28-5	2,4-Dinitrophenol	3200	U
100-02-7	4-Nitrophenol	3200	U
132-64-9	Dibenzofuran	660	U
121-14-2	2,4-Dinitrotoluene	660	U
84-66-2	Diethylphthalate	660	U
7005-72-3	4-Chlorophenyl-phenylether	660	U
86-73-7	Fluorene	660	U
100-10-6	4-Nitroaniline	3200	U
534-52-1	4,6-Dinitro-2-Methylphenol	3200	U
86-30-6	N-Nitrosodiphenylamine (1)	660	U
101-55-3	4-Bromophenyl-phenylether	660	U
118-74-1	Hexachlorobenzene	660	U
87-86-5	Pentachlorophenol	3200	U
85-01-8	Phenanthrene	660	U
120-12-7	Anthracene	660	U
84-74-2	Di-n-Butylphthalate	660	U
206-44-0	Fluoranthene	660	U
129-00-0	Pyrene	660	U
85-68-7	Butylbenzylphthalate	660	U
91-94-1	3,3'-Dichlorobenzidine	1300	U
56-55-3	Benzo(a)Anthracene	660	U
218-01-9	Chrysene	660	U
117-81-7	bis(2-Ethylhexyl)Phthalate	660	U
117-84-0	Di-n-Octyl Phthalate	660	U
205-99-2	Benzo(b)Fluoranthene	660	U
207-08-9	Benzo(k)Fluoranthene	660	U
50-32-8	Benzo(a)Pyrene	660	U
193-39-5	Indeno(1,2,3-cd)Pyrene	660	U
53-70-3	Dibenz(a,h)Anthracene	660	U
191-24-2	Benzo(g,h,i)Perylene	660	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MB

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F4596MB

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 55)	25.65	510	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 596MB

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 05/03/89

Moisture: not dec. ____ dec. ____ Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/16/89

GPC Cleanup: (Y/N) Y pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	16	U
319-85-7	beta-BHC	16	U
319-86-8	delta-BHC	16	U
58-89-9	gamma-BHC (Lindane)	16	U
76-44-8	Heptachlor	16	U
309-00-2	Aldrin	16	U
1024-57-3	Heptachlor epoxide	16	U
959-98-8	Endosulfan I	16	U
60-57-1	Dieldrin	32	U
72-55-9	4,4'-DDE	32	U
72-20-8	Endrin	32	U
33213-65-9	Endosulfan II	32	U
72-54-8	4,4'-DDD	32	U
1031-07-8	Endosulfan sulfate	32	U
50-29-3	4,4'-DDT	32	U
72-43-5	Methoxychlor	160	U
53494-70-5	Endrin ketone	32	U
5103-71-9	alpha-Chlordane	160	U
5103-74-2	gamma-Chlordane	160	U
8001-35-2	Toxaphene	320	U
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	320	U
11096-82-5	Aroclor-1260	320	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKW1

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: PBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 0505MB

Sample wt/vol: 4.0 (g/mL) G Lab File ID: F50505MB

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1200	U
74-83-9	Bromomethane	1200	U
75-01-4	Vinyl Chloride	1200	U
75-00-3	Chloroethane	1200	U
75-09-2	Methylene Chloride	120	J
67-64-1	Acetone	210	J
75-15-0	Carbon Disulfide	620	U
75-35-4	1,1-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	620	U
540-59-0	1,2-Dichloroethene (total)	620	U
67-66-3	Chloroform	620	U
107-06-2	1,2-Dichloroethane	620	U
78-93-3	2-Butanone	1200	U
71-55-6	1,1,1-Trichloroethane	620	U
56-23-5	Carbon Tetrachloride	620	U
108-05-4	Vinyl Acetate	1200	U
75-27-4	Bromodichloromethane	620	U
78-87-5	1,2-Dichloropropane	620	U
10061-01-5	cis-1,3-Dichloropropene	620	U
79-01-6	Trichloroethene	620	U
124-48-1	Dibromochloromethane	620	U
79-00-5	1,1,2-Trichloroethane	620	U
71-43-2	Benzene	620	U
10061-02-6	Trans-1,3-Dichloropropene	620	U
75-25-2	Bromoform	620	U
108-10-1	4-Methyl-2-Pentanone	1200	U
591-78-6	2-Hexanone	1200	U
127-18-4	Tetrachloroethene	620	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
108-88-3	Toluene	620	U
108-90-7	Chlorobenzene	620	U
100-41-4	Ethylbenzene	620	U
100-42-5	Styrene	620	U
1330-20-7	Total Xylenes	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK1

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 0505MB

Sample wt/vol: 4.0 (g/mL) G Lab File ID: F50505MB

Level: (low/med) MED Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 05/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKE1

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: VBLKE1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5608

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKE1

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: VBLKE1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5608

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKE2

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: VBLKE2

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5621

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

11756 · 3-133-02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKE2

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: VBLKE2

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5621

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2

ab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

atrix: (soil/water) SOIL Lab Sample ID: 0505MB

ample wt/vol: 5.0 (g/mL) G Lab File ID: F10505MB

Level: (low/med) LOW Date Received: _____

Moisture: not dec. _____ Date Analyzed: 05/05/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK2

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23

Matrix: (soil/water) SOIL Lab Sample ID: 0505MB

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F10505MB

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/05/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MS

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725071MS

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5624

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	8	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MS

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725088MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4397

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MS

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725088MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4397

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756 • 3-336-01

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MS

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725089

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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EPA SAMPLE NO.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CN934MSD

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725071MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E5625

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ Date Analyzed: 04/14/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	7	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 05/11/89

CN934MSD

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725088

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4398

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MSD

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725088

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4398

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/17/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

11756 • 3-340-01

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MSD

Lab Name: CLAYTON NOVI Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725089

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

11756 • 3-232-01

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4362

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

11756-3-458-06

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: CLAYTON NOVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4362

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKW1

Lab Name: CLAYTON NDVI Contract: 68-D9-0035

Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F4362

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MACF38

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-01S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	184.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	3.20	B		F
7440-39-3	Barium	41.80			P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	17.00		*	P
7440-70-2	Calcium	74500.00			P
7440-47-3	Chromium	49.40			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	49.60			P
7439-89-6	Iron	681.00			P
7439-92-1	Lead	22.00	U		P
7439-95-4	Magnesium	15300.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.30			CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1200.00			A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	18400.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	113.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCAF39

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-02S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	256.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	19.20		*	P
7440-70-2	Calcium	770.00	U		P
7440-47-3	Chromium	48.60			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	67.30			P
7439-89-6	Iron	512.00			P
7439-92-1	Lead	58.00			P
7439-95-4	Magnesium	760.00	U		P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	28.80			P
7440-09-7	Potassium	1060.00	U		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	101000.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	24.20			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCBH82

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-03S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	111.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	72.10			P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	66800.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	42.50			P
7439-89-6	Iron	255.00			P
7439-92-1	Lead	22.00	U	E	P
7439-95-4	Magnesium	15800.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1600.00			A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	19400.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	142.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY686

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-04S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	488.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	115.00			P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	97600.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	41.80			P
7439-89-6	Iron	622.00			P
7439-92-1	Lead	68.60			P
7439-95-4	Magnesium	17400.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1900.00			A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	17.70		N	P
7440-23-5	Sodium	15500.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	483.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY687

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-05S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100.00	U		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.20	B		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	73200.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	41.70			P
7439-89-6	Iron	182.00			P
7439-92-1	Lead	22.00	U		P
7439-95-4	Magnesium	13900.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	2000.00			A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	17.70		N	P
7440-23-5	Sodium	18100.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	17.00	U		P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY688

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-06S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	131.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	72.70			P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	69500.00			P
7440-47-3	Chromium	8.60			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	22.00	U		P
7439-89-6	Iron	415.00			P
7439-92-1	Lead	22.00	U		P
7439-95-4	Magnesium	16500.00			P
7439-96-5	Manganese	14.10			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1500.00			A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	18500.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	143.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY694

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: MACF38

Matrix (soil/water): WATER Lab Sample ID: 00150-07S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	105.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	10.80		*	P
7440-70-2	Calcium	770.00	U		P
7440-47-3	Chromium	11.20			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	22.00	U		P
7439-89-6	Iron	346.00			P
7439-92-1	Lead	39.60			P
7439-95-4	Magnesium	760.00	U		P
7439-96-5	Manganese	23.30			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1060.00	U		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	19.20		N	P
7440-23-5	Sodium	700.00	U		P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	17.00	U		P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

KEYSTONE DC# 11866-03-05

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY689

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Lab Sample ID: 890523002

Level (low/med): LOW Date Received: 05/03/89

% Solids: 81.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29600.00			P
7440-36-0	Antimony	7.50	U	N	P
7440-38-2	Arsenic	13.70		SN*	F
7440-39-3	Barium	76.20			P
7440-41-7	Beryllium	1.70			P
7440-43-9	Cadmium	0.98	U		P
7440-70-2	Calcium	519.00	B		P
7440-47-3	Chromium	58.00			P
7440-48-4	Cobalt	14.20			P
7440-50-8	Copper	95.00		N	P
7439-89-6	Iron	36500.00			P
7439-92-1	Lead	65.70		W	F
7439-95-4	Magnesium	9560.00		*	P
7439-96-5	Manganese	326.00		N*	P
7439-97-6	Mercury	0.12	U		CV
7439-02-0	Nickel	33.00			P
7440-09-7	Potassium	605.00	B		P
7782-49-2	Selenium	1.70	U		F
7440-22-4	Silver	1.00	U	N	P
7440-23-5	Sodium	77.20	B		P
7440-28-0	Thallium	0.49	U	W	F
7440-62-2	Vanadium	76.10			P
7440-66-6	Zinc	185.00		*	P
	Cyanide	1.70			AS

Color Before: DK.BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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FORM I - IN 7/87

KEYSTONE DC# 11866-03-05

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY690

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Lab Sample ID: 890523005

Level (low/med): LOW Date Received: 05/03/89

% Solids: 84.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27900.00			P
7440-36-0	Antimony	7.30	U	N	P
7440-38-2	Arsenic	14.10		SN*	F
7440-39-3	Barium	131.00			P
7440-41-7	Beryllium	1.50			P
7440-43-9	Cadmium	1.80			P
7440-70-2	Calcium	332.00	B		P
7440-47-3	Chromium	161.00			P
7440-48-4	Cobalt	14.70			P
7440-50-8	Copper	538.00		N	P
7439-89-6	Iron	43800.00			P
7439-92-1	Lead	75.40			F
7439-95-4	Magnesium	9270.00		*	P
7439-96-5	Manganese	365.00		N*	P
7439-97-6	Mercury	0.12	U		CV
7439-02-0	Nickel	40.00			P
7440-09-7	Potassium	291.00	B		P
7782-49-2	Selenium	1.60	U		F
7440-22-4	Silver	0.97	U	N	P
7440-23-5	Sodium	71.60	B		P
7440-28-0	Thallium	0.47	U	W	F
7440-62-2	Vanadium	69.50			P
7440-66-6	Zinc	404.00		*	P
	Cyanide	1.20	U		AS

Color Before: DK.BROWN Clarity Before: Texture: [illegible]

Color After: YELLOW Clarity After: Artifacts:

Comments:

KEYSTONE DC# 11866-03-05

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY691

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Lab Sample ID: 890523006

Level (low/med): LOW Date Received: 05/03/89

% Solids: 80.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26700.00			P
7440-36-0	Antimony	7.60	U	N	P
7440-38-2	Arsenic	15.80		SN*	F
7440-39-3	Barium	43.30	B		P
7440-41-7	Beryllium	1.30			P
7440-43-9	Cadmium	1.00	U		P
7440-70-2	Calcium	372.00	B		P
7440-47-3	Chromium	48.60			P
7440-48-4	Cobalt	19.40			P
7440-50-8	Copper	14.90		N	P
7439-89-6	Iron	39900.00			P
7439-92-1	Lead	12.40			F
7439-95-4	Magnesium	10200.00		*	P
7439-96-5	Manganese	631.00		N*	P
7439-97-6	Mercury	0.12	U		CV
7439-02-0	Nickel	30.20			P
7440-09-7	Potassium	633.00	B		P
7782-49-2	Selenium	1.80	B		F
7440-22-4	Silver	1.00	U	N	P
7440-23-5	Sodium	80.00	B		P
7440-28-0	Thallium	0.50	U	W	F
7440-62-2	Vanadium	73.80			P
7440-66-6	Zinc	76.00		*	P
	Cyanide	1.20	U		AS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

KEYSTONE DC# 11866-03-05

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY692

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Lab Sample ID: 890523007

Level (low/med): LOW Date Received: 05/03/89

% Solids: 80.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	25500.00			P
7440-36-0	Antimony	7.70	U	N	P
7440-38-2	Arsenic	12.10		N*	F
7440-39-3	Barium	46.60	B		P
7440-41-7	Beryllium	1.30			P
7440-43-9	Cadmium	1.00	U		P
7440-70-2	Calcium	352.00	B		P
7440-47-3	Chromium	51.30			P
7440-48-4	Cobalt	17.30			P
7440-50-8	Copper	13.60		N	P
7439-89-6	Iron	42400.00			P
7439-92-1	Lead	12.50			F
7439-95-4	Magnesium	9110.00		*	P
7439-96-5	Manganese	602.00		N*	P
7439-97-6	Mercury	0.13	U		CV
7439-02-0	Nickel	28.10			P
7440-09-7	Potassium	264.00	B		P
7782-49-2	Selenium	1.70	U	W	F
7440-22-4	Silver	1.00	U	N	P
7440-23-5	Sodium	68.50	B		P
7440-28-0	Thallium	0.50	U	W	F
7440-62-2	Vanadium	87.50			P
7440-66-6	Zinc	78.40		*	P
	Cyanide	1.30	U		AS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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KEYSTONE DC# 11866-03-05

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MCY693

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-W8-0005

Lab Code: KEYTX Case No.: 11866 SAS No.: SDG No.: MCY689

Matrix (soil/water): SOIL Lab Sample ID: 890523008

Level (low/med): LOW Date Received: 05/03/89

% Solids: 70.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21000.00			P
7440-36-0	Antimony	8.70	U	N	P
7440-38-2	Arsenic	8.60		SN*	F
7440-39-3	Barium	51.70	B		P
7440-41-7	Beryllium	1.80			P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	655.00	B		P
7440-47-3	Chromium	44.00			P
7440-48-4	Cobalt	14.90			P
7440-50-8	Copper	5.70	B	N	P
7439-89-6	Iron	42900.00			P
7439-92-1	Lead	298.00			F
7439-95-4	Magnesium	8040.00		*	P
7439-96-5	Manganese	729.00		N*	P
7439-97-6	Mercury	0.14	U		CV
7439-02-0	Nickel	27.40			P
7440-09-7	Potassium	135.00	U		P
7782-49-2	Selenium	1.10	B	W	F
7440-22-4	Silver	1.20	U	N	P
7440-23-5	Sodium	58.80	B		P
7440-28-0	Thallium	0.57	U		F
7440-62-2	Vanadium	88.00			P
7440-66-6	Zinc	95.40		*	P
	Cyanide	1.40	U		AS

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts: YES

Comments:
ROCKS & ROOTS IN SAMPLE.

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCAF38 ~~MACF38~~ 5/31

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: 5/31 ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-01S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	184.00	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	3.20	B		F
7440-39-3	Barium	41.80	B		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	17.00		*	P
7440-70-2	Calcium	74500.00			P
7440-47-3	Chromium	49.40			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	49.60			P
7439-89-6	Iron	681.00			P
7439-92-1	Lead	24.40 ~~28.20~~ ~~22.00~~ 5/31	U	N+	~~P~~ F
7439-95-4	Magnesium	15300.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.30			CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1200.00	B		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	18400.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	113.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCAF39

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-02S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	256.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	19.20		*	P
7440-70-2	Calcium	770.00	U		P
7440-47-3	Chromium	48.60			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	67.30			P
7439-89-6	Iron	512.00			P
7439-92-1	Lead	17.10 ~~58.00~~		N	~~P~~ F
7439-95-4	Magnesium	760.00	U		P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	28.80	B		P
7440-09-7	Potassium	1060.00	U		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	101000.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	24.20			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: ____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCBH82

ıb Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

ıtrix (soil/water): WATER Lab Sample ID: 00150-03S

Level (low/med): LOW Date Received: 04/13/89

Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	111.00	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	72.10	B		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	66800.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	42.50			P
7439-89-6	Iron	255.00			P
7439-92-1	Lead	8.40 ~~22.00~~	U	E NM	~~PF~~
7439-95-4	Magnesium	15800.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1600.00	B		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	19400.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	142.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY686

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-04S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	488.00			P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	115.00	B		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	97600.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	41.80			P
7439-89-6	Iron	622.00			P
7439-92-1	Lead	14.70 ~~68.60~~		NS	~~P~~ F
7439-95-4	Magnesium	17400.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1900.00	B		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	17.70		N	P
7440-23-5	Sodium	15500.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	483.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: ____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY687

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-05S

Level (low/med): LOW Date Received: 04/13/89

Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100.00	U		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.20	B		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	73200.00			P
7440-47-3	Chromium	8.00	U		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	41.70			P
7439-89-6	Iron	182.00			P
7439-92-1	Lead	53.30 ~~22.00~~	~~U~~	N+	~~PF~~
7439-95-4	Magnesium	13900.00			P
7439-96-5	Manganese	14.00	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	2000.00	B		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	17.70		N	P
7440-23-5	Sodium	18100.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	17.00	U		P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY688

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-06S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	131.00	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	72.70	B		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	69500.00			P
7440-47-3	Chromium	8.60	B		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	22.00	U		P
7439-89-6	Iron	415.00			P
7439-92-1	Lead	32.50 ~~22.00~~	~~U~~	N	~~P~~ F
7439-95-4	Magnesium	16500.00			P
7439-96-5	Manganese	14.10	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1500.00	B		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	18500.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	143.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: ____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY688

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ McAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-06S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	131.00	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	72.70	B		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	5.00	U	*	P
7440-70-2	Calcium	69500.00			P
7440-47-3	Chromium	8.60	B		P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	22.00	U		P
7439-89-6	Iron	415.00			P
7439-92-1	Lead	34.80 ~~32.50~~ ~~22.00~~	~~U~~	N+	~~P~~ F
7439-95-4	Magnesium	16500.00			P
7439-96-5	Manganese	14.10	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1500.00	B		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	10.00	U	N	P
7440-23-5	Sodium	18500.00			P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	143.00			P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCY694

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: 11756 SAS No.: SDG No.: ~~MACF38~~ MCAF38

Matrix (soil/water): WATER Lab Sample ID: 00150-07S

Level (low/med): LOW Date Received: 04/13/89

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	105.00	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	29.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-41-7	Cadmium	10.80		*	P
7440-70-2	Calcium	770.00	U		P
7440-47-3	Chromium	11.20			P
7440-48-4	Cobalt	12.00	U		P
7440-50-8	Copper	22.00	U		P
7439-89-6	Iron	346.00			P
7439-92-1	Lead	12.80 ~~39.60~~		N	~~P~~ F
7439-95-4	Magnesium	760.00	U		P
7439-96-5	Manganese	23.30			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.00	U		P
7440-09-7	Potassium	1060.00	U		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	19.20		N	P
7440-23-5	Sodium	700.00	U		P
7440-28-0	Thallium	3.00	U		F
7440-62-2	Vanadium	19.00	U		P
7440-66-6	Zinc	17.00	U		P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

APPENDIX C

8571-38-221 | 38-LAHALL

2-17-81

Larry Hall (847-2818) from Rt 412, head west on 513, then right on 1st ground Rd 1st house (only house in sight) - [illegible]

Rt. 1 Box 212 Ottsville Pa. 18942

Water Quality

Mr. Hall called. Aqua Pure (Coplestown) labs ran a TCE sample of his well and had a result of 40.2 ppb TCE. They are having a carbon filter installed by Aqua Pure tomorrow. He said that approx 1½ years ago, EPA had a neighboring property owner remove some old barrels which had been stored there for many years. I said I would call and take samples when next in area.

2-25-81 Stopped and sampled water at Larry Hall residence. He has a chlorinator which is added just before pressure tank. The water then goes thru a softener and then thru the carbon filter. Water was sampled at pressure tank and kitchen sink. Cl2 residual was 0. I advised to check chlorinator, buy a test kit and monitor residual. I advised between 0.2 and 0.5 mg/L residual. He showed me an area several hundred feet from his house where there had been many drums stored in a field, some of which had spilled. He said in Jan 1980, DER had supervised drum removal and cleanup. Hall had made original complaint to DER. There were still a few drums at the site, one appeared to be leaking a paint-like substance. There was also some minor oil spillage at 1 drum. The subdivision was the William J. Schulberger Estate. The lot with the drums is owned by Rose + Steve Uhler. I advised I would contact DER re: drum contents. See sketch on back. Also sampled well at Lawrence Comly residence (P.O. Box 213 A Ottsville, Pa. 847-5627 - call at lunchtime after 3 PM) I filed this w/ Larry Bonner of DER. There were approx. 50 barrels in 2 piles with signs on many had leaked.

[illegible]

FIELD ACTION REPORT

Pg. 2

Date:

Case Name: Terry Hall Complaint

Municipality: New Garrison Twp.

Program: Water Quality

Action: 2-27-81 Gary Bonner informed me that according to his records the drums were on several different properties. 1 owner which had been contacted by DER was Mr. Wayne Lee Miller ~~[illegible]~~ (West Water Street, Hellertown, Pa.).

3-11-81 Stopped at site and sampled Mrs. Cook at B 6A Rt 563 847-2523 and Ray Miller 847-2147 on gravel Rd off 563 near Hall. I went to previous drum storage site and collected soil samples at the location Mr Hall said was the largest drum pile. There was no vegetation at this spot ~~[illegible]~~ which was approx 20' in diameter.

3-24-81 Sampled 5 homes along Rt. 563 for TCE.

4-9-81 Sampled Woodward home along Rt 563 for TCE after Woodward gave permission to sample.

4-28-81 Called Andy Woodward to advise of results. He advised he was only renting property and was moving out on 5-1-81. He gave R. Lare's phone # (owner). I called Mr. Lare and advised of results, and advised to not drink water unless filtered or carbon filtration is available. He was very upset at first and wanted to know why he wasn't told of this sooner. I advised I didn't aware property was a rented property until today when I called Woodward advised Woodward had given me permission to sample.

5-3-81 - Sampled at this home - before + after carbon filter. Filter is a dual ~~[illegible]~~ canister type filter first ~~[illegible]~~ to treat 1 tap at the kitchen sink for drinking.

5-27-81 Sampled at Shullenberger home Rt 563

Terrill L. Noll

Telephone	☒
Office Visit	☐
Field Contact	☒

E.P.S. II

Nockamixon TCE Samples. 86 11-35-12K

563 Larry Hall 847-2818
R.D 1 Box 212
Ottsville, Pa. 18942

565 Lawrence Comly 847-5627
Box 213 A Rt. 563
Ottsville, Pa.

598 Cook residence 847-2523 property owner is Vince Panak 257-2993
B 6A Rt. 563 Po. box 162
Ottsville Perkasie, Pa. 18944

599 Ray Miller 847-2147
Rt. 563
Ottsville

650 Mary Rocco 847-5314 owner: Ms. Dolores Robinson
Box 210 R.D. #1 Rt. 563 Box 3 R.D. 2 H-592-5181
Ottsville Upperblack Eddy, Pa. W 343-2800 MH-MR

651 J.F. McLaughlin 847-5010
R.D. #1 Box 219 Rt 563
Ottsville

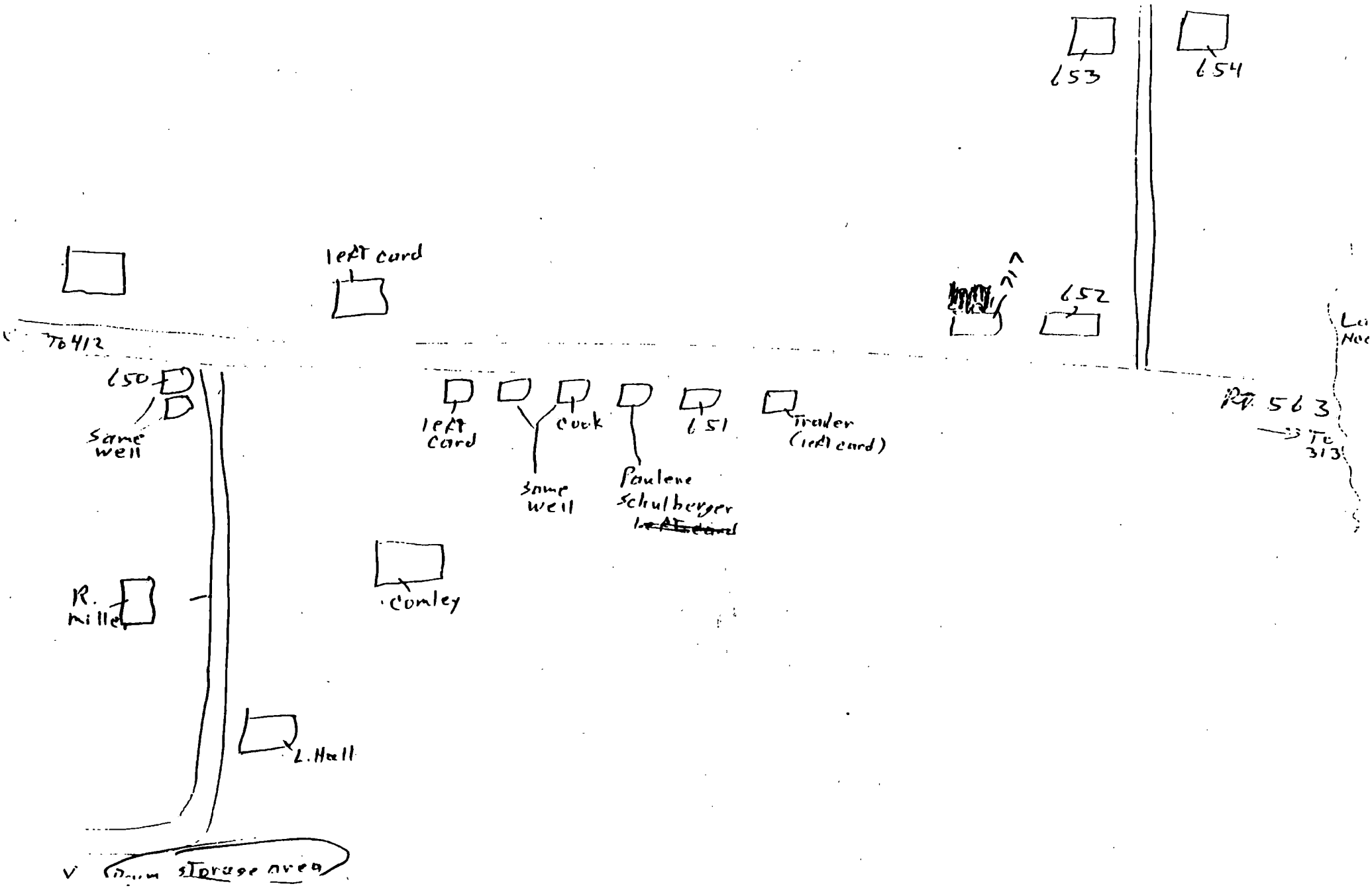
652 James Atkins H-847-2255 W-345-1400
R.D. 1 Box 223 Rt 563
Ottsville

653 Wm. Stever 847-2162
R.D. #1 Box 222 Rt. 563
Ottsville

654 W.P. Kellom 847-2201
RD #1 Box 221 Rt 563
Ottsville, Pa.

717 Mr. Andy Woodward Work-794-8112
Rt. 563
Ottsville, Pa. 18942
— owner of this property is Mr. Robert Spare
1008 Willow Penn Drive
Southampton, Pa. 18966
357-0692

121029 Mrs. Pauline Schulberger 847-5090
R.D. #1 Rt. 563
P.O. Box 218
Ottsville, Pa. 18942


153
154
left card
To 412
152
Rt 563
To 313
150
Same well
left card
Cook
151
Trader (left card)
Same well
Paulene Schulberger
R. Miller
Conley
L. Hall
storage area

2-13.1 .78 FACILITY SAMPLE

[R] STREAM/RANDOM SAMPLE

2 NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number [illegible]

Date Received 8/28/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Shulberger Residence			121029

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp.	WS	D. Noll	0	10

CARD (3)	10 CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun Est Case Fac: Not Set WAMIS		0	M D Y: 0 8 2 7 8 1	Hr Min: 1 2 2 0	4

LOGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	2 8 4	0 1 2 1 0 2 9		

SECONDARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Outside Hose Bibb Rte 563

CUSTODY LOG

Date Shipped: Date

Official Seal No.

Received by:

Official Seal Conditions:

ADDITIONAL LAB ANALYSES: TCE/PCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0007.3
TCE	"		0150.—
PCE	"		0003.7

ANALYST [illegible] SIGNATURE DATE

CENTRAL OFFICE

ER-BWQ-13.1
REV 9-78

W | R — FACILITY SAMPLE / STREAM/RANDOM SAMPLE

1 2 — NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number D1607

Date Received 3/25/91

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
ATkins Residence		well	652

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	W.S.	D. Noll	0	10

CARD (1)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 (M D Y)	TIME 25-28 (Hr Min)	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NCTFOR WAIIES		0	032491	1407	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012652		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: ATkins kitchen sink.

CUSTODY LOG

How Shipped — Date

Legal Seal No.

Received by:

Legal Seal Condition:

R.D1 Rt. 563 Ottsville, Pa.

ADDITIONAL LAB ANALYSES

TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		00046.0
TCE	"		01306.-
PCE	"		00206.-

ANALYST J. H. Wallgren — SIGNATURE

DATE 3/[illegible]/91

CENTRAL OFFICE

1 2 NETWORK SAMPLE — BACTERIOLOGICAL ANALYSES — 15901 — DATE RECEIVED 6-4-81

ESTABLISHMENT	CASE	FACILITY	COLL. NUMBER
Jim Atkins residence		well	830

COUNTY	MUNICIPALITY	PROGRAM	COLL. NAME	TYPE TR.	Std. Analysis
Bucks	Nockamixon Twp.	W. Q.	D. Noll	5	

CARD (3)	ID CODE (ALL CARDS) 4-16 (Cnty, Mun, T, Est, Case, Fac)	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 (M D Y)	TIME 25-28 (HR Min)	KIND 29
1 / 2			0	06 03 81	13 36	3

USGS-Q 30-34	AGENCY 35-37	Sample No. 38-43	STREAM NAME 44-57	Rel. Pt. 58	Type 59-60	Source 61-62	Reason 63-64
	2 8 4	012 830			04	03	01

Composite Samples:	P/U 65	T/S 66	Alq 67-68	Cond. 80	Flow:	STATION DESCRIPTION:
						Drinking Tap-Kitchen sink

R.D. #1 Box 563

Field Analysis

Cl. Tot. mg/l (50060)

Cl. Free mg/l (50064)

COMMENTS

Total Coliforms (Per 100 ml)	(3150 1)	0 — 0
Fecal Coliforms (Per 100 ml)	(3161)	
Total Fecal Strep (Per 100 ml)	(3167)	
Total Plate Count (Per ml)	(31751)	

CENTRAL OFFICE — ANALYZED BY: gac — DATE: 6/5

☐ SAMPLE Exceeds Time Limits of Standard Methods for Valid Analysis

legal seal condition

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0008.6
TCE	"		0096.—
PCE	"		0017.—

ANALYST: J. H. Malpiere (SIGNATURE) — DATE: 6/5/81

CENTRAL OFFICE

ER-BWQ-13.1
REV 9-78

FACILITY SAMPLE

W | R STREAM/RANDOM SAMPLE

1 2 NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number 11695

Date Received 3/25/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Mary [redacted] Rocco Residence		Well	121650

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp.	W.Q.	D. Noll	D	1D

CARD (3)	ID CODE (ALL CARDS) 4-18	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1/2	Cnty Mun T Est Case Fac: NOTFORWARD		0	M D Y: 03 24 81	Hr Min: 13 10	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012165		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Rocco R.D. 1 RT. 563 Ottsville Pa.
Porch Tap

CUSTODY LOG

How Shipped Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

111-TCE + PCE - None detected

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
TCE	ug/l		00016

ANALYST J. H. [illegible] SIGNATURE DATE 3-31

CENTRAL OFFICE

ER-AWQ-13.1
REV 9-78

FACILITY SAMPLE

W | R — STREAM/RANDOM SAMPLE

1 2 — NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT – SPECIAL ANALYSES

Lab Number 11A609

Date Received 3/25/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
W.P. Kellam residence		well	654

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	W.Q.	D. Noll	0	10

CARD (3)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOTFOR WAMES		0	M D Y: 0 3 2 4 8 1	Hr Min: 1 4 2 5	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	0 1 2 1 6 5 4		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Kellam R.D. 1 rt. 563 Ottsville

CUSTODY LOG

How Shipped — Date

Legal Seal No.

Received by:

Legal Seal Condition:

outside Tap

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0000.5
TCE	"		0007.9
PCE	"		0000.6

ANALYST: J. H. Malgieri — SIGNATURE

DATE: 3/31/81

CENTRAL OFFICE

R-BWQ-12.1
EV 9-78

FACILITY SAMPLE

W | R STREAM/RANDOM SAMPLE

1 2 NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number [illegible]

Date Received 3/25/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Wm. Stever residence		well	653

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp.	W. Q.	D. Noll	C	1 C

CARD (3)	ID CODE (ALL CARDS) 4-18	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: N M F U R W A M I S		0	M D Y: 0 3 2 4 8 1	Hr Min: 1 4 2 0	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	B C H	0 2 1 6 5 3		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN Stever [redacted] R.D. 1 Rt 563

outside Tap

CUSTODY LOG

Now Shipped Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES

TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0000.18
TCE	"		0017.1
PCE	"		0000.9

ANALYST J. H. McGrane
SIGNATURE

DATE 3/31/81

CENTRAL OFFICE

ER-BWQ-15.1
REV 9-78

W — FACILITY SAMPLE
R — STREAM/RANDOM SAMPLE
1 2 — NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT – SPECIAL ANALYSES

Lab Number

Date Received 3/25/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
J.F. McLaughlin residence		well	251

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp.	W.Q.	D. Noll	0	10

CARD (3)	10 CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1/2	Cnty Mun T Est Case Fac: NOT FOR WIMMIS		0	M D Y: 03 24 81	Hr Min: 13 50	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012165		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: McLaughlin R.D. #1 RT. 513, Ottsville

Kitchen sink.

CUSTODY LOG

How Shipped — Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	~~ug/l~~		0003.0
TCE	"		0043.1
PCE	"		0001.0

ANALYST: J. H. [illegible] — SIGNATURE

DATE

CENTRAL OFFICE

EX-SWQ-1 REV 9-78

W | R

1 2

FACILITY SAMPLE

STREAM/RANDOM SAMPLE

NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL RESOURCES

BUREAU OF WATER QUALITY MANAGEMENT

WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Date Received 3/12/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Cook residence			598

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	I.W.	D. Noll	0	10

CARD (31)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOT FOR WATERS		0	M D Y: 03 11 81	Hr Min: 13 05	6

USGS Q (30-34)	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012598		

TRIBUTARY TO:

ADDITIONAL LAB ANALYSES: TCE, PCE, 111 TCE

FULL DESCRIPTION WHERE SAMPLE TAKEN: Bathroom sink B6A RT. 563

CUSTODY LOG

How Shipped — Date

Legal Seal No.

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0008.5
TCE	"		0110.-
PCE	"		0002.6

ANALYST J. H. Malfese (SIGNATURE) DATE 3/23/81

CENTRAL OFFICE

ER-BWQ-13.1
EV 9-78

W | R

1 2

FACILITY SAMPLE

STREAM/RANDOM SAMPLE

NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT – SPECIAL ANALYSES

Lab Number [illegible]

Date Received 2/26/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Lawrence [redacted]	Comly residence	well	565

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STO ANALYSIS
Bucks	Nockamixon Twp	W.Q.	D. Noll	0	10

CARD (3)	ID CODE (ALL CARDS) 4-18	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOT FOR NAMES		0	M D Y: 0 2 2 5 8 1	Hr Min: 1 1 3 3	4

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	B C H	0 1 2 1 5 6 5		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN Outside Tap at Comly well
Box 213 A Ottsville, Pa.
Rt. 563

CUSTODY LOG

Flow Shipped Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

111-TCE + PCE - none detected

QUANTITATIVE RESULTS

ANALYSIS	UNITS	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
TCE	ug/l		0 0 1 2 . –

ANALYST J. H. MacPeice
SIGNATURE

DATE

CENTRAL OFFICE

CR-BWQ-13.1
REV 9.70

W — FACILITY SAMPLE
R — STREAM/RANDOM SAMPLE
1 2 — NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number
Date Received 4/10/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Andy Woodward residence		Well	717

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	W. Q.	D. Noll	D	1 D

CARD (3)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	K-19
1/2	Cnty Mun T Est Case Fac: NOT FOR WATERS		0	M D Y: 04 09 81	Hr Min: 12 40	4

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012171 7		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Outside Tap, RT. 563, Ottsville, Pa. 18942

CUSTODY LOG
How Shipped — Date
Legal Seal No.
Received by:
Legal Seal Condition:

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	~~ug/l~~		00005.18
TCE -	"		0140.1
PCE	"		0001.18

ANALYST J. H. Maljevac (SIGNATURE) DATE 4/17/81

CENTRAL OFFICE

ER-BWQ-13.1
REV 9-78

W | R

1 2

FACILITY SAMPLE

STREAM/RANDOM SAMPLE

NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number

Date Received 3/12/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Ray Miller residence			599

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	IW	D. Noll	0	10

CARD (3)	ID CODE (ALL CARDS) 4-18	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOT FOR WATER		0	M D Y: 03 11 81	Hr Min: 13 15	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	021599		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Outside Tap at rear of house (before water softener)

RT. 563 - (Gravel La. near Hall)

CUSTODY LOG

How Shipped Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES:
TCE
PCE
111 TCE

QUALITATIVE REPORT

111-TCE + PCE - None detected

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINE)
TCE	ug/l		0.0016

ANALYST J. H. Malgieri
SIGNATURE

DATE 3/23/81

CENTRAL OFFICE

1-8WQ-13.1
V 9-78

FACILITY SAMPLE

[ ] [R] STREAM/RANDOM SAMPLE

1 2 NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number 112718

Date Received 2/26/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Larry Hall residence		well	563

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	W. Q	D. Noll	1	10

CARD (3)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	City / Mun / T / Est / Case / Fac: NOT FOR LIMITS		0	M D Y: 02 25 81	Hr / Min: 10 50	4

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012563		

TRIBUTARY TO:

WELL DESCRIPTION WHERE SAMPLE TAKEN: Raw well from pressure Tank (after chlorination) Hall res. Box 212 Ottsville, Pa.

CUSTODY LOG

Raw Shipped Date

Seal Seal No.

Received by:

Seal Seal Condition:

ADDITIONAL LAB ANALYSES: TCE, PCE, 111 TCE

QUALITATIVE REPORT

other peaks present - no I.D.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0016.-
TCE	"		0050.-
PCE	"		0005.6

ANALYST J. H. Malone
SIGNATURE

DATE

CENTRAL OFFICE

ER-BWQ-13.1
REV 9-78

W | R

1 2

FACILITY SAMPLE

STREAM/RANDOM SAMPLE

NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT — SPECIAL ANALYSES

Lab Number 02719

Date Received 2/26/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Larry Hall residence		well	564

MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp. W.Q.	D. Moll	4+7	10

CARD (3)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOT FOR WANTS		0	M D Y: 02 25 81	Hr Min: 10 55	3

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012156 4		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Finished water after carbon filter from kitchen tap.

ADDITIONAL LAB ANALYSES: TCE, PCE, 111 TCE

CUSTODY LOG

How Shipped | Date

Legal Seal No.

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

111-TCE + TCE + PCE - none detected

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

BUCKS CO. DEPT. OF HEALTH

ANALYST J. H. Malpine (SIGNATURE) DATE 2/27/81

CENTRAL OFFICE

ER-8WQ-13.1
SV 9-78

FACILITY SAMPLE

W | R STREAM/RANDOM SAMPLE

1 2 NETWORK SAMPLE

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
WATER OR WASTE QUALITY REPORT – SPECIAL ANALYSES

Lab Number [illegible]

Date Received 3/12/81

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Larry Hall Complaint			600

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Bucks	Nockamixon Twp	F.W.	D. Noll	0	50

CARD (3)	ID CODE (ALL CARDS) 4-16	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24	TIME 25-28	KIND 29
1 / 2	Cnty Mun T Est Case Fac: NOT FOR WATERS		0	M D Y: 03 11 81	Hr Min: 1345	6

USGS-Q 30-34	AGENCY 35-37	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	BCH	012160 0		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: Soil sample from field near Hall res at site of previous drum storage area.

CUSTODY LOG

How Shipped | Date

Legal Seal No.

Received by:

Legal Seal Condition:

ADDITIONAL LAB ANALYSES
TCE
PCE
111 TCE

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)
111-TCE	mg/kg	1	079.
TCE	"		260.
PCE	"		210.

ANALYST J. H. Maliewc
SIGNATURE

DATE 3/23/81

CENTRAL OFFICE

APPENDIX D

HW-1,6

HOME WELL SURVEY

Home Owner's Name: CARRY C. HALL

Date: 4/12/89

Address: RD #1 BOX 212
OTTSVILLE, PA
18942

Home Phone: 847-2818
Work Phone: 847-5641

1. Please describe the type of home well you presently utilize:
(Check those which apply)

____ Dug well

X Drilled by a rig; if so, please identify company (name, address, and phone):

____ Other (describe) ____

1a. Please estimate the following: Year installed MID 1950's

Date of last service NONE

Company who serviced (name, address, and phone):

2. Please provide the following measurements of your well:

a. Total depth: ≈ 350'

b. Well diameter: ____

3. Please describe the casing material used in your well:

a. Composition

____ Iron ____ PVC ____ Galvanized ____ Terra Cotta

____ Other - Please Specify (if known)

b. Appendix C

HW 1,6

HOME WELL SURVEY

Home Owner [redacted]: CARY HALL Date: 4/12/89

4. Please describe, if known, any screening material used in your well:

   a. Length of screen: _____

   b. Depth of screen in well: _____

5. Please indicate, if known, the depth to the groundwater in your well (from the surface):

   _____

6. Please indicate the composition of home plumbing (pipes) in your system:

   ____ Iron ____ PVC ____ Galvanized ____ Lead

   X Other (describe): COPPER

7. Please describe the water pump used in your system:

   a. Location of the pump

   X Inside the well (submersible pump); Depth in well: _____

   ____ Outside the well (indicate location): _____

   b. Type of pump

   Branch (if known): _____

   Capacity (gallons per minute): _____

   c. Estimate hours of pump operation per day: 1 hr

   2 PRESSURE TANKS - DOMESTIC + HEATING

   d. [redacted]rage tank used: X Yes ____ No

   [redacted] Type (material) ZOV Capacity _____

8. a. Do you regularly or have you ever added chemicals directly to your well?

   (i.e., chlorine, clorox, etc.) ____ Yes ____ No

   If yes, date last added: _____ Approximate amount added _____

   Compound (brand name): _____

HW-11

HOME WELL SURVEY

Home Owner's Name: LARRY HALL Date: 4-12-89

b. Please describe any type of water treatment you are currently using (check those which apply):

X Filtration
Type: CARBON

X Water Softeners
Indicate Brand: _____

___ Other (explain)
_____
_____
_____

9. Please indicate any testing that has been done on your water:

Date of testing: 1980
Name of individual(s) responsible for testing: DER

10. Well Use: X Drinking X Other: ALL DOMESTIC

11. Do you notice color, taste, or odor problems with well water? ___ Yes X No
If yes, identify: _____

Do you notice water supply problems? ___ Yes X No
If yes, when: _____ how often: _____

12. Please indicate the type(s) of wastewater system used (check):
Sewer Line ___
Septic Tank X Cesspool ___ Drain Field ___
Distance to Well >100'

13. We are taking water samples from many area homes in the near future. If your well is chosen for sampling, would you be willing to allow our NUS representatives to sample your well? Sampling involves collecting water from one of your indoor or outdoor spigots.

X Yes, I will allow my well to be sampled.
___ No, I will not allow my well to be sampled.

HW 1,6

HOME WELL SURVEY

Home Owner's Name: LARRY HALL Date: 4-12-89

If yes, please indicate the time of day which would be convenient for us to sample.

____ Morning ____ Afternoon ____ Evening

* MOST OF DAY - CALL FIRST

14. In the space below, please furnish a rough sketch of your property, indicating the location of your well and on-lot wastewater system, if applicable. Also indicate the location of the spigot you would prefer us to sample.

BASEMENT SPIGOT BY PRESSURE TANK.

HW-2

C

HOME WELL SURVEY

Home Owner's Name: Miller

Date: _____

Address: RD 1 Box 213 Route 583
Orwigsburg

Home Phone: 847-2147

Work Phone: _____

1. Please describe the type of home well you presently utilize:
(Check those which apply)

_____ Dug well

_____ Drilled by a rig; if so, please identify company (name, address, and phone):

_____

_____

_____

_____ Other (describe) _____

1a. Please estimate the following: Year installed 1965

Date of last service 1981

Company who serviced (name, address, and phone): _____

_____

_____

2. Please provide the following measurements of your well:

a. Total depth: 240

b. Well diameter: 6-8

3. Please describe the casing material used in your well:

a. Composition

_____ Iron _____ PVC ? Galvanized _____ Terra Cotta

_____ Other - Please Specify (if known)

b. Length (if known): 20-70'

HW-2

HOME WELL SURVEY

Home Owner's Name: Miller Date: _____

4. Please describe, if known, any screening material used in your well:

   a. Length of screen: _____

   b. Depth of screen in well: _____

5. Please indicate, if known, the depth to the groundwater in your well (from the surface): 200'

6. Please indicate the composition of home plumbing (pipes) in your system:

   ___ Iron X PVC ___ Galvanized ___ Lead

   ___ Other (describe): Copper

7. Please describe the water pump used in your system:

   a. Location of the pump

   X Inside the well (submersible pump); Depth in well: _____

   ___ Outside the well (indicate location): _____

   b. Type of pump

   Branch (if known): _____

   Capacity (gallons per minute): 38

   c. Estimate hours of pump operation per day: 2 hr

   d. Is storage tank used: X Yes ___ No

   Type (material) ~~Bladder~~ Copper Capacity 30 gal

8. a. Do you regularly or have you ever added chemicals directly to your well? (i.e., chlorine, clorox, etc.) ___ Yes X No

   If yes, date last added: _____ Approximate amount added _____

   Compound (brand name): _____

HW-2

HOME WELL SURVEY

Home Owner's Name: miller Date: _____

b. Please describe any type of water treatment you are currently using (check those which apply):

_____ Filtration
Type: _____

X Water Softeners
Indicate Brand: _____

_____ Other (explain)
_____
_____
_____

9. Please indicate any testing that has been done on your water:

Date of testing: 1981
Name of individual(s) responsible for testing: BLHD

10. Well Use: X Drinking _____ Other: _____

11. Do you notice color, taste, or odor problems with well water? _____ Yes X No
If yes, identify: _____

Do you notice water supply problems? _____ Yes X No
If yes, when: _____ how often: _____

12. Please indicate the type(s) of wastewater system used (check):
Sewer Line _____
Septic Tank X Cesspool _____ Drain Field _____
Distance to Well _____

13. We may be taking water samples from many area homes in the near future. If your well is chosen for sampling, would you be willing to allow our NUS representatives to sample your well? Sampling involves collecting water from one of your indoor or outdoor spigots.

X Yes, I will allow my well to be sampled.
_____ No, I will not allow my well to be sampled.

HW-2

HOME WELL SURVEY

Home Owner's Name: Miller Date: _____

If yes, please indicate the time of day which would be convenient for us to sample.

_____ Morning _____ Afternoon _____ Evening

14. In the space below, please furnish a rough sketch of your property, indicating the location of your well and on-lot wastewater system, if applicable. Also indicate the location of the spigot you would prefer us to sample.

HW-3

HOME WELL SURVEY

Home Owner: ROBERT POTTER Date: 4/12/89

Address: RD#2 BOX 66A
PARK DRIVE
KINTNERSVILLE, PA
18930

Home Phone: 847-2871
Work Phone: _____

1. Please describe the type of home well you presently utilize:
(Check those which apply)

___ Dug well
✓ Drilled by a rig; if so, please identify company (name, address, and phone):
BUCKS COUNTY WELL

___ Other (describe) _____

1a. Please estimate the following: Year installed 1987
Date of last service _____

Company who serviced (name, address, and phone): _____

2. Please provide the following measurements of your well:

a. Total depth: ≈375'
b. Well diameter: _____

3. Please describe the casing material used in your well:

a. Composition
X Iron ___ PVC ___ Galvanized ___ Terra Cotta
___ Other - Please Specify (if known)

b. Length (if known): _____

HW-3

HOME WELL SURVEY

Home Owner's [redacted] Robert Potter Date: 4-12-89

4. Please describe, if known, any screening material used in your well:

   a. Length of screen: _____

   b. Depth of screen in well: _____

5. Please indicate, if known, the depth to the groundwater in your well (from the surface):

   _____

6. Please indicate the composition of home plumbing (pipes) in your system:

   ___ Iron X PVC ___ Galvanized ___ Lead

   X Other (describe): copper

7. Please describe the water pump used in your system:

   a. Location of the pump

   X Inside the well (submersible pump); Depth in well: _____

   ___ Outside the well (indicate location): _____

   b. Type of pump

   Branch (if known): _____

   Capacity (gallons per minute): 3 g/m

   c. Estimate hours of pump operation per day: _____

   d. [redacted] tank used: X Yes ___ No

   [redacted] (material) iron Capacity 60 gal

8. a. Do you regularly or have you ever added chemicals directly to your well?

   (i.e., chlorine, clorox, etc.) ___ Yes ___ No

   If yes, date last added: _____ Approximate amount added _____

   Compound (brand name): _____

HW-3

HOME WELL SURVEY

Home Owner's Name: Robert Poller Date: 4-12-89

b. Please describe any type of water treatment you are currently using (check those which apply):

____ Filtration
Type: _____

X Water Softeners
Indicate Brand: SEARS

____ Other (explain)
_____

9. Please indicate any testing that has been done on your water:

Date of testing: ORIGINAL
Name of individual(s) responsible for testing: _____

10. Well Use: X Drinking X Other: DOMESTIC

11. Do you notice color, taste, or odor problems with well water? ____ Yes X No
If yes, identify: _____

Do you notice water supply problems? ____ Yes X No
If yes, when: _____ how often: _____

12. Please indicate the type(s) of wastewater system used (check):
Sewer Line ____
Septic Tank X Cesspool ____ Drain Field ____
Distance to Well >150'

13. We may be taking water samples from many area homes in the near future. If your well is chosen for sampling, would you be willing to allow our NUS representatives to sample your well? Sampling involves collecting water from one of your indoor or outdoor spigots.

X Yes, I will allow my well to be sampled.
____ No, I will not allow my well to be sampled.

HW-3

~~HW-4~~

HOME WELL SURVEY

Home Owner: Robert Potter Date: 4-12-89

If yes, please indicate the time of day which would be convenient for us to sample.

_____ Morning _____ Afternoon _____ Evening

14. In the space below, please furnish a rough sketch of your property, indicating the location of your well and on-lot wastewater system, if applicable. Also indicate the location of the spigot you would prefer us to sample.

OUTSIDE SPIGOT

Hw 4

HOME WELL SURVEY

Home Owner: ARRIGO, SAMUEL Date: 4/12/89

Address: RD 1 Box 204
POTTSVILLE, PA 18942

Home Phone: 847-5274
Work Phone:

1. Please describe the type of home well you presently utilize:
(Check those which apply)

___ Dug well
✓ Drilled by a rig; if so, please identify company (name, address, and phone):
ROY CANARIUM ? SP
Quakertown, PA

___ Other (describe) ___

1a. Please estimate the following: Year installed 1947
Date of last service 1965 re-drilled
Company who serviced (name, address, and phone): Quakertown, PA

2. Please provide the following measurements of your well:

a. Total depth: 435'
b. Well diameter: 6"

3. Please indicate the casing material used in your well:

a. Composition
✓ Iron ___ PVC ___ Galvanized ___ Terra Cotta
___ Other - Please Specify (if known)

b. Length (if known): 25-30'

Hw-4

HOME WELL SURVEY

Home Owner's Name: Samuel Arrigo Date: 4/12/89

4. Please describe, if known, any screening material used in your well:
NONE

   a. Length of screen: _____

   b. Depth of screen in well: _____

5. Please indicate, if known, the depth to the groundwater in your well (from the surface):
originally 258' — NOW 390-400'
redrilled to a

6. Please indicate the composition of home plumbing (pipes) in your system:

   ____ Iron ____ PVC ____ Galvanized ____ Lead
   ✓ Other (describe): copper

7. Please describe the water pump used in your system:

   a. Location of the pump
   ✓ Inside the well (submersible pump); Depth in well: 220'
   ____ Outside the well (indicate location): _____

   b. Type of pump
   Branch (if known): _____
   Capacity (gallons per minute): _____

   c. Estimate hours of pump operation per day: as needed

   d. Storage tank used: ✓ Yes ____ No
   Type (material) glass lined Capacity 80'

8. a. Do you regularly or have you ever added chemicals directly to your well?
   (i.e., chlorine, clorox, etc.) ____ Yes ✓ No
   If yes, date last added: _____ Approximate amount added _____
   Compound (brand name): _____

HW-4

HOME WELL SURVEY

Home Owner [redacted]: Samuel Arrigo Date: 4/12/89

b. Please describe any type of water treatment you are currently using (check those which apply):

____ Filtration
Type: _____

✓ Water Softeners
Indicate Brand: _____

____ Other (explain)
_____

9. Please indicate any testing that has been done on your water:

Date of testing: 1960's

Name of individual(s) responsible for testing: _____

10. Well Use: ✓ Drinking ____ Other: all

11. Do you notice color, taste, or odor problems with well water? ____ Yes ✓ No

If yes, identify: _____

Do you notice water supply problems? ____ Yes ✓ No

If yes, when: _____ how often: _____

12. Please indicate the type(s) of wastewater system used (check):

Sewer Line ____

Septic Tank ✓ Cesspool ____ Drain Field ____

Distance to Well 100'

13. We [redacted] taking water samples from many area homes in the near future. If your well is chosen for sampling, would you be willing to allow our NUS representatives to sample your well? Sampling involves collecting water from one of your indoor or outdoor spigots.

✓ Yes, I will allow my well to be sampled.

____ No, I will not allow my well to be sampled.

HW-4

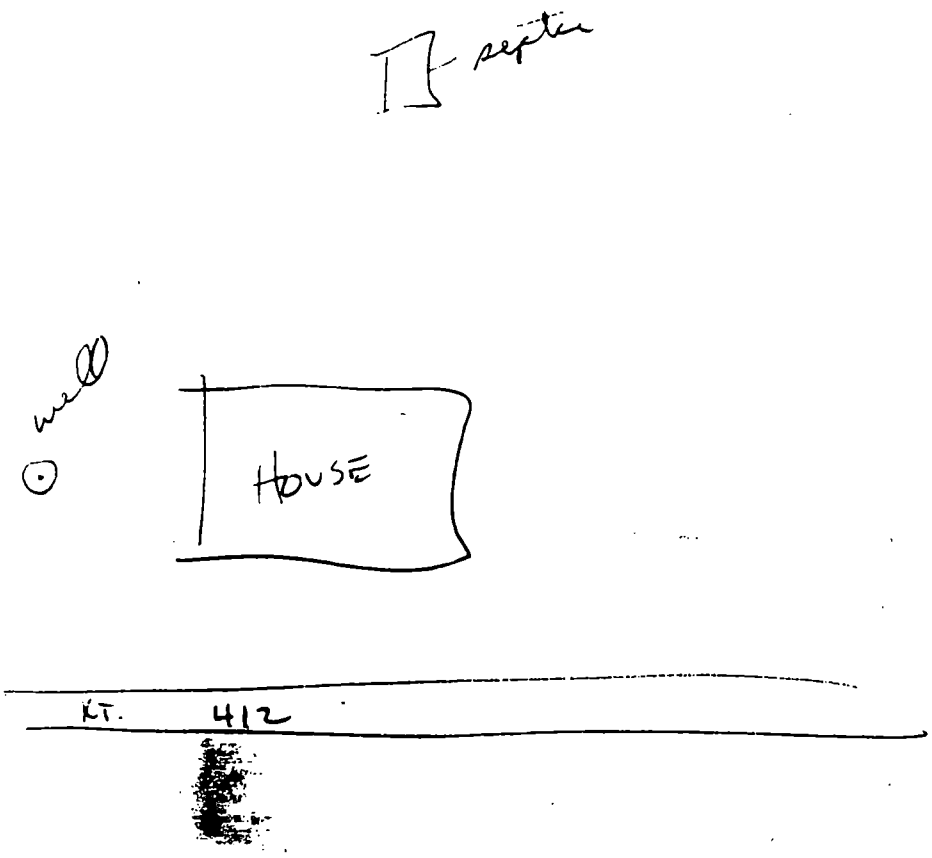
HOME WELL SURVEY

Home Owner's Name: Samuel Arrigo Date: 4-12-89

If yes, please indicate the time of day which would be convenient for us to sample.

_____ Morning _____ Afternoon _____ Evening

14. In the space below, please furnish a rough sketch of your property, indicating the location of your well and on-lot wastewater system, if applicable. Also indicate the location of the spigot you would prefer us to sample.



HW-3

HOME WELL SURVEY

Home Owner: Kim Findley

Date: 4-12-89

Address: Box 216
Ottsville PA
18942

Home Phone: (215) 847-2537

Work Phone: _____

1. Please describe the type of home well you presently utilize:
(Check those which apply)

_____ Dug well

X Drilled by a rig; if so, please identify company (name, address, and phone):

_____

_____

_____

_____ Other (describe) _____

1a. Please estimate the following: Year installed approx 30 yrs ago

Date of last service _____

Company who serviced (name, address, and phone): _____

_____

_____

2. Please provide the following measurements of your well:

a. Total depth: _____

b. Well diameter: _____

3. Please describe the casing material used in your well:

a. Composition

_____ Iron _____ PVC _____ Galvanized _____ Terra Cotta

_____ Other - Please Specify (if known)

b. Length (if known): _____

HW-5

HOME WELL SURVEY

Home Owner: Kim Lindley Date: 4-12-89

4. Please describe, if known, any screening material used in your well:

   a. Length of screen: _____

   b. Depth of screen in well: _____

5. Please indicate, if known, the depth to the groundwater in your well (from the surface):

   _____

6. Please indicate the composition of home plumbing (pipes) in your system:

   _____ Iron _____ PVC _____ Galvanized _____ Lead

   _____ Other (describe): _____

7. Please describe the water pump used in your system:

   a. Location of the pump

   _____ Inside the well (submersible pump); Depth in well: _____

   X Outside the well (indicate location): in basement

   b. Type of pump

   Branch (if known): _____

   Capacity (gallons per minute): _____

   c. Estimate hours of pump operation per day: _____

   d. Pressure tank used: X Yes _____ No

   Type (material) _____ Capacity _____

8. a. Do you regularly or have you ever added chemicals directly to your well?

   (i.e., chlorine, clorox, etc.) _____ Yes X No

   If yes, date last added: _____ Approximate amount added _____

   Compound (brand name): _____

HOME WELL SURVEY HW-5

Home Owner's Name: Kim Lindley Date: 4-12-85

b. Please describe any type of water treatment you are currently using (check those which apply):

____ Filtration none

Type: _____

____ Water Softeners

Indicate Brand: _____

____ Other (explain)

_____

_____

_____

9. Please indicate any testing that has been done on your water:

Date of testing: _____ ~ DER

Name of individual(s) responsible for testing: _____

10. Well Use: X Drinking ____ Other: _____

all domestic purposes

11. Do you notice color, taste, or odor problems with well water? ____ Yes X No

If yes, identify: _____

Do you notice water supply problems? ____ Yes ____ No

If yes, when: _____ how often: _____

12. Please indicate the type(s) of wastewater system used (check):

Sewer Line ____

Septic Tank X Cesspool ____ Drain Field ____

Distance to Well ____

13. We are taking water samples from many area homes in the near future. If your well is chosen for sampling, would you be willing to allow our NUS representatives to sample your well? Sampling involves collecting water from one of your indoor or outdoor spigots.

____ Yes, I will allow my well to be sampled.

____ No, I will not allow my well to be sampled.

HOME WELL SURVEY

HW-5

Home Owner's Name: Kim Lindley Date: 4-12-89

If yes, please indicate the time of day which would be convenient for us to sample.

_____ Morning _____ Afternoon _____ Evening

14. In the space below, please furnish a rough sketch of your property, indicating the location of your well and on-lot wastewater system, if applicable. Also indicate the location of the spigot you would prefer us to sample.

5.5 PHOTO LOG

PHOTO # 1 & 2 WESTERN PAN OF SITE.

PHOTO # 3 & 4 EASTERN PAN OF SITE.

PHOTO # 5 STAINED SOIL ON SITE, FACING NORTH.

PHOTO # 6 LOCATION OF S-1, AND S-2
FACING NORTH.

PHOTO # 7 LOCATION OF S-4, FACING NORTH.

PHOTO # 8 LOCATION OF S-5, FACING NORTH.

PHOTO # 9 LOCATION OF S-6, BACKGROUND SOIL SAMPLE.

PHOTO # 10 HOMEWELL SAMPLE LOCATION, HW-1, HW-2, HALL'S RESIDENCE.

PHOTO # 11 HOMEWELL SAMPLE LOCATION, HW-2, MILLER'S RESIDENCE.

PHOTO # 12 HOMEWELL SAMPLE LOCATION, HW-3, POTTER'S RESIDENCE.

PHOTO # 13 HOMEWELL SAMPLE LOCATION, HW-4,
ARRIGO'S RESIDENCE.

PHOTO # 14 HOMEWELL SAMPLE LOCATION, HW-5,
LINDLEY'S RESIDENCE.