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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
Pre-Remedial Section

Enclosure

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

R-585-10-9-14

SITE INSPECTION OF
NOCKAMIXON TOWNSHIP - ROUTE 563
PREPARED UNDER

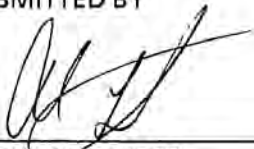
TDD NO. F3-8903-20
EPA NO. PA-2483
CONTRACT NO. 68-01-7346

FOR THE
HAZARDOUS SITE CONTROL DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

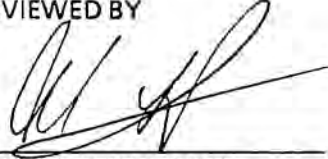
MARCH 14, 1990

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY


MICHAEL SNYDER
PROJECT MANAGER

REVIEWED BY


ANDREW FREBOWITZ
ASSISTANT MANAGER

APPROVED BY



GARTH GLENN
REGIONAL MANAGER, FIT 3

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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

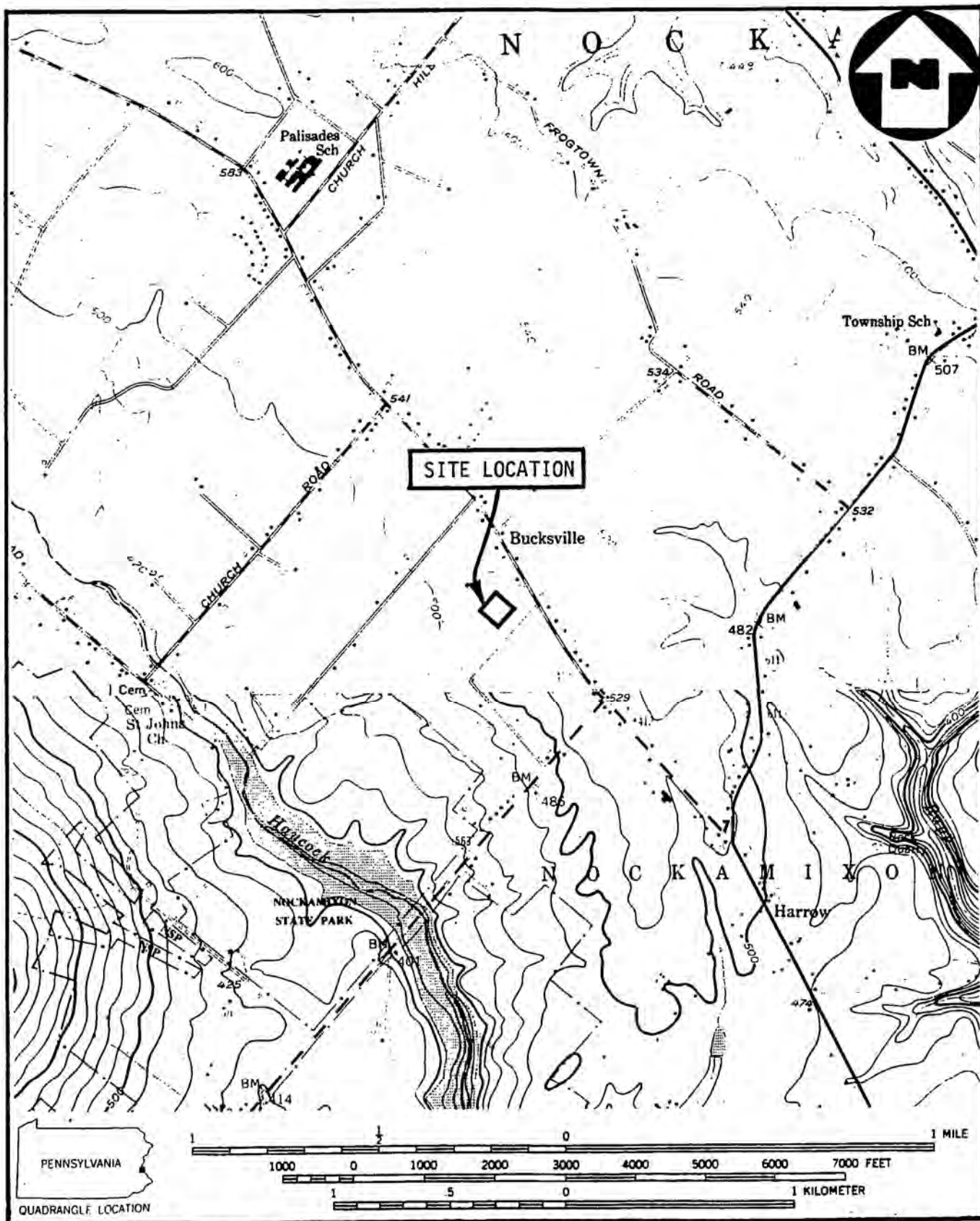
The area of concern is located on the southwestern portion of a 10-acre parcel of land. Brennan Road borders the area to the southeast. The remainder of the land is wooded. The area of concern, where drum removal took place, is less than one acre in size and, at the time of the FIT visit, consisted of (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}

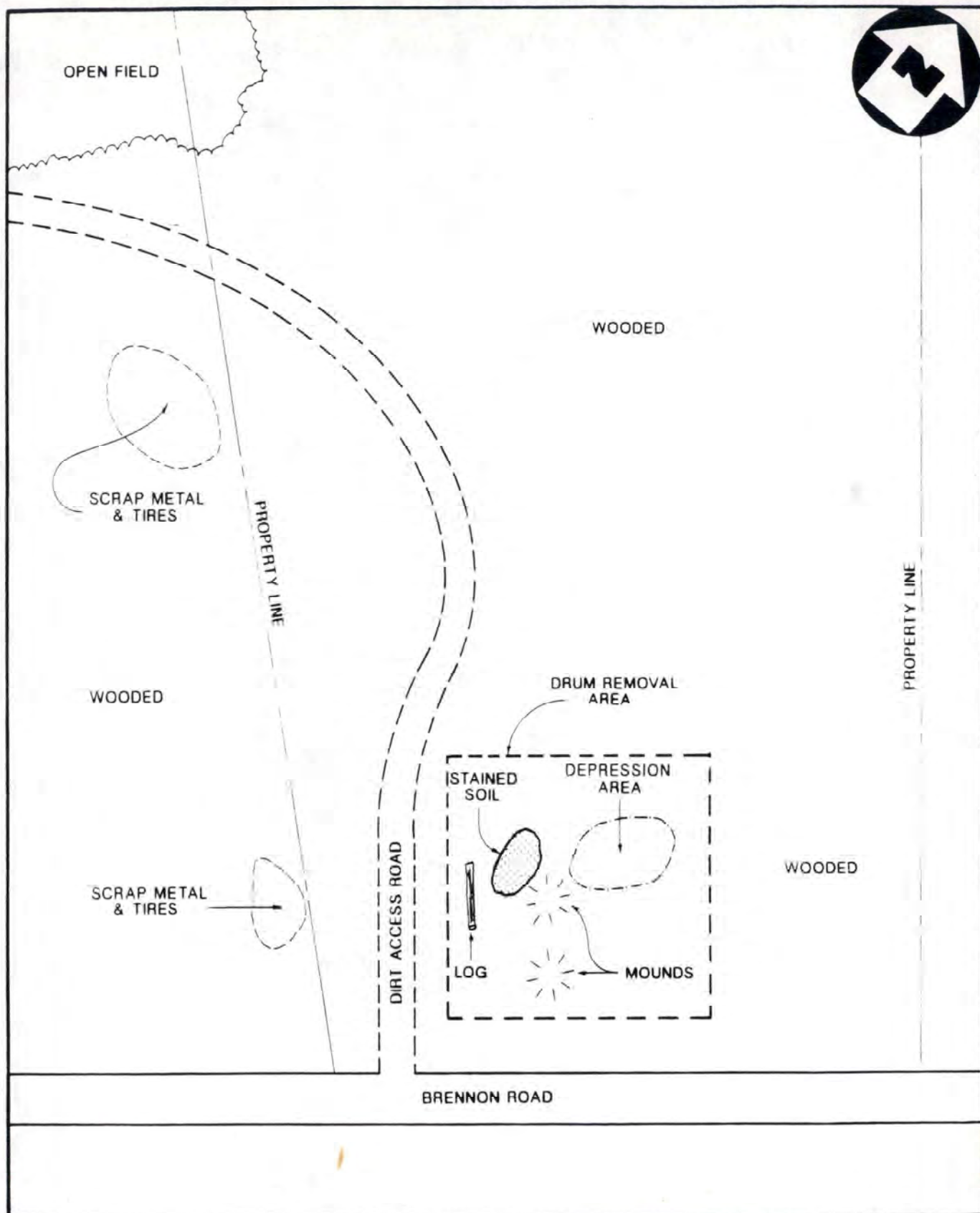


SOURCE: (7.5 MINUTE SERIES) U.S.G.S. BEDMINSTER & RIEGELSVILLE, PA., QUADS.

SITE LOCATION MAP
NOCKAMIXON TWP. ROUTE #563
 SCALE 1: 24000

FIGURE 2.1





SITE SKETCH

NOCKAMIXON TWP. ROUTE #563

(NO SCALE)

FIGURE 2.2



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.

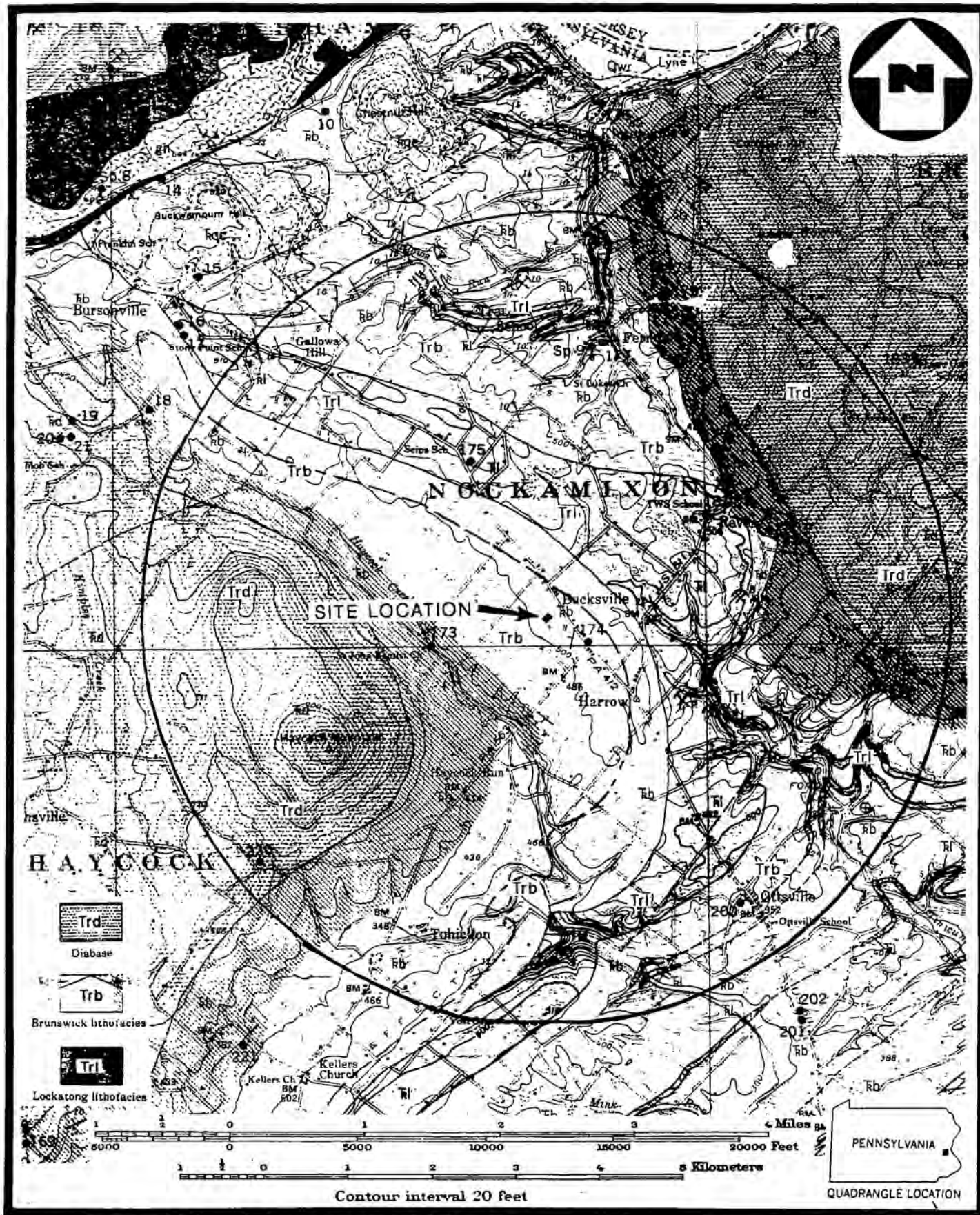
3.3.1 Geology

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



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

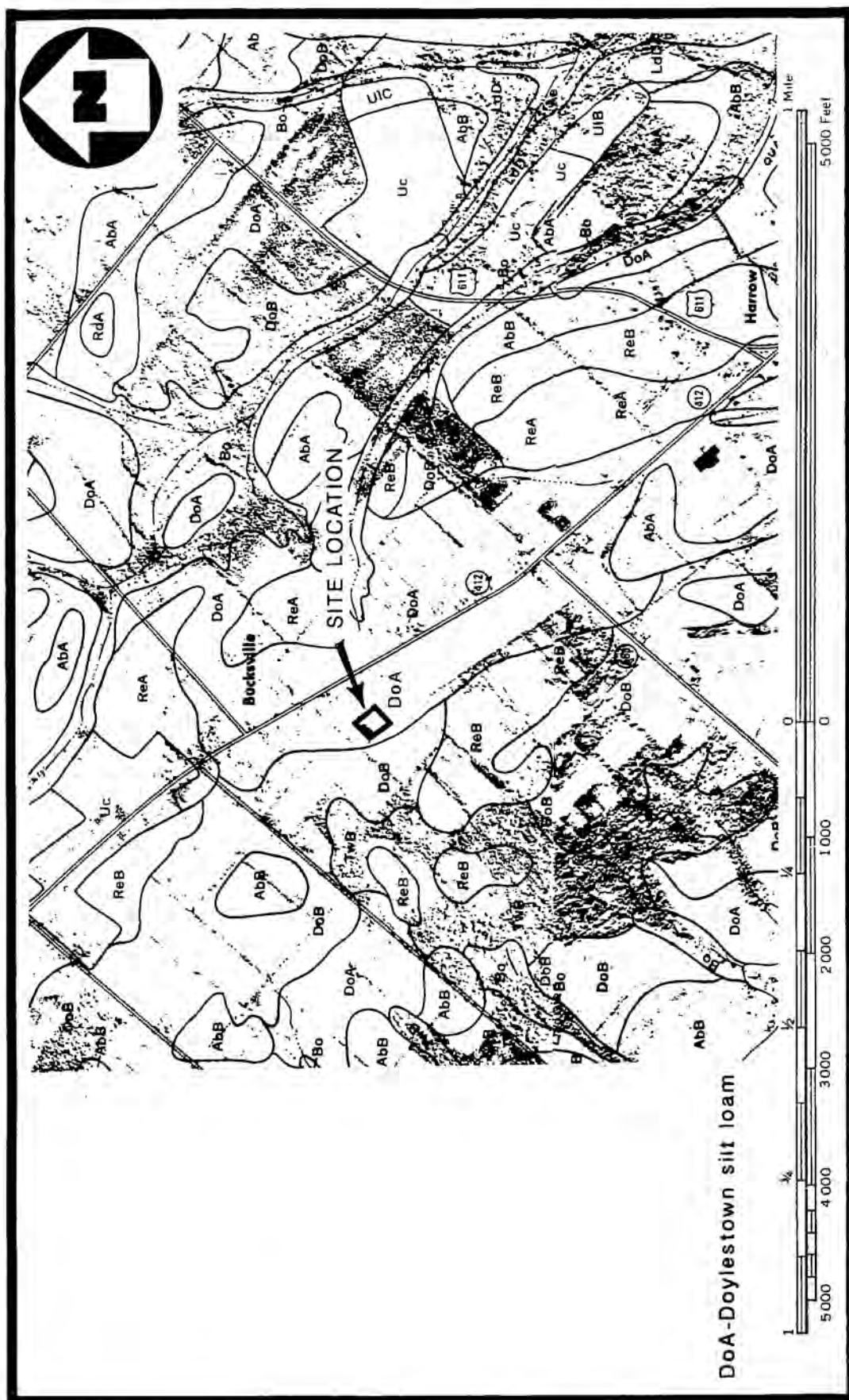


FIGURE 3-2

SOILS MAP



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

Roxanne Miller
Adjacent Property Owner
and Sister of Site Owner
10 West Water Street
Hellertown, PA 18055
[REDACTED]

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

Heidi Gawron
Site Owner
3009 Valley Pine Road
Schenectady, NY 12303
[REDACTED]

5.2.1 Prior to Field Trip (continued)

Rosalice M. Uhl
Adjacent Property Owner
and Sister of Site Owner
Coopersburg, PA 18036
[REDACTED]

Larry Hall
Adjacent Property Owner
RD No. 1, Box 212
Ottsville, PA 18942
[REDACTED]

5.2.2 At the Site

Rosalice M. Uhl
Adjacent Property Owner
and Sister of Site Owner
Coopersburg, PA 18036
[REDACTED]

Larry Hall
Adjacent Property Owner
RD No. 1, Box 212
Ottsville, PA 18942
[REDACTED]

Roxanne Miller
Adjacent Property Owner
and Sister of Site Owner
10 West Water Street
Hellertown, PA 18055
[REDACTED]

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

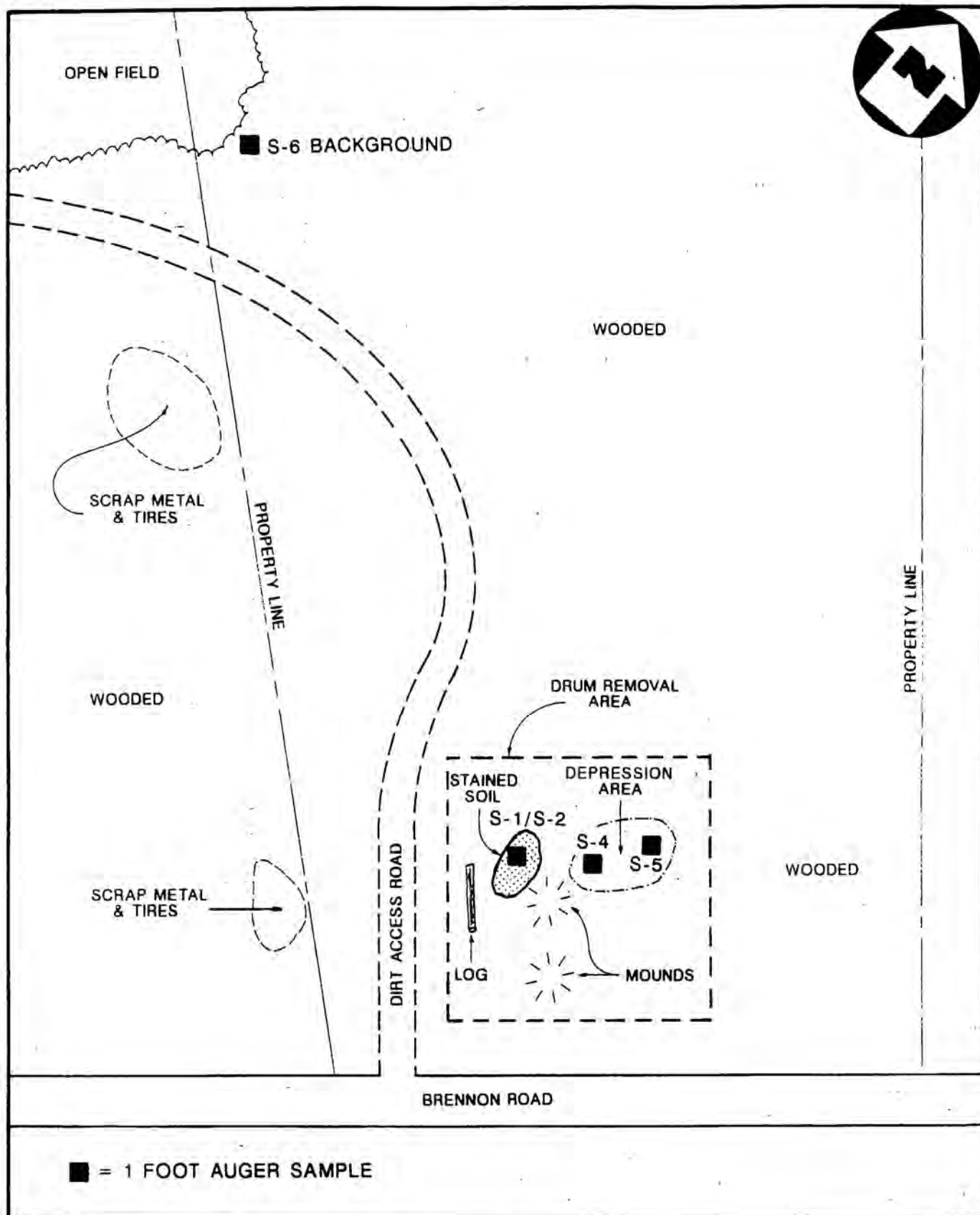
5.3

SAMPLE LOG

SITE NAME Nockamixon twp-R7-51

TRAFFIC REPORTS		SAMPLE IDENTIFIER	PHASE	SAMPLE DESCRIPTION	SAMPLE LOCATION	TARGET USE	pH	FIELD MEASUREMENTS
Organic	Inorganic							
CP882	MC0482	HW-1	AQ	clear, odorless	LARRY HALL RD #1 Box 212 OHSVILLE, PA 18942	Drinking water and direct contact	7.42	conductivity 5.37 x 10 ²
CN934	MC4F38	HW-2	AQ	clear, odorless	RAYMOND MILLER RD #1 Box 213 Rt 503 OHSVILLE, PA 18942	Drinking water and direct contact	7.6	conductivity 5.26 x 10 ²
CX870	MC4F39	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 x 10 ²
CX871	MCY686	HW-4	AQ		SAMUEL ARIGO RD #1 Box 204 OHSVILLE, PA 18942	Drinking water and direct contact	7.2	conductivity 6.63 x 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 x 10 ²
CAR22	MCY688	HW-6	AQ	dup of HW-1	SAME AS HW-1	SAME AS HW-1	7.42	conductivity 5.37 x 10 ²
CAR29	MCY694	AQ-0	AQ	Aqueous Black	—	—	6.5	conductivity 2.0
CAR23	MCY689	Sol-1	Sol	Composite (1') black stained soil on top. 1 ft. to mid BWL underneath, silty sandy texture, dark	20 feet west of dirt road, in area of stained soil on site.	Direct contact	—	no OVA readings above to Kgrd
CAR24	MCY690	Sol-2	Sol	SAME AS SOL-1	SAME AS SOL-1	SAME AS SOL-1	—	no OVA readings above to Kgrd

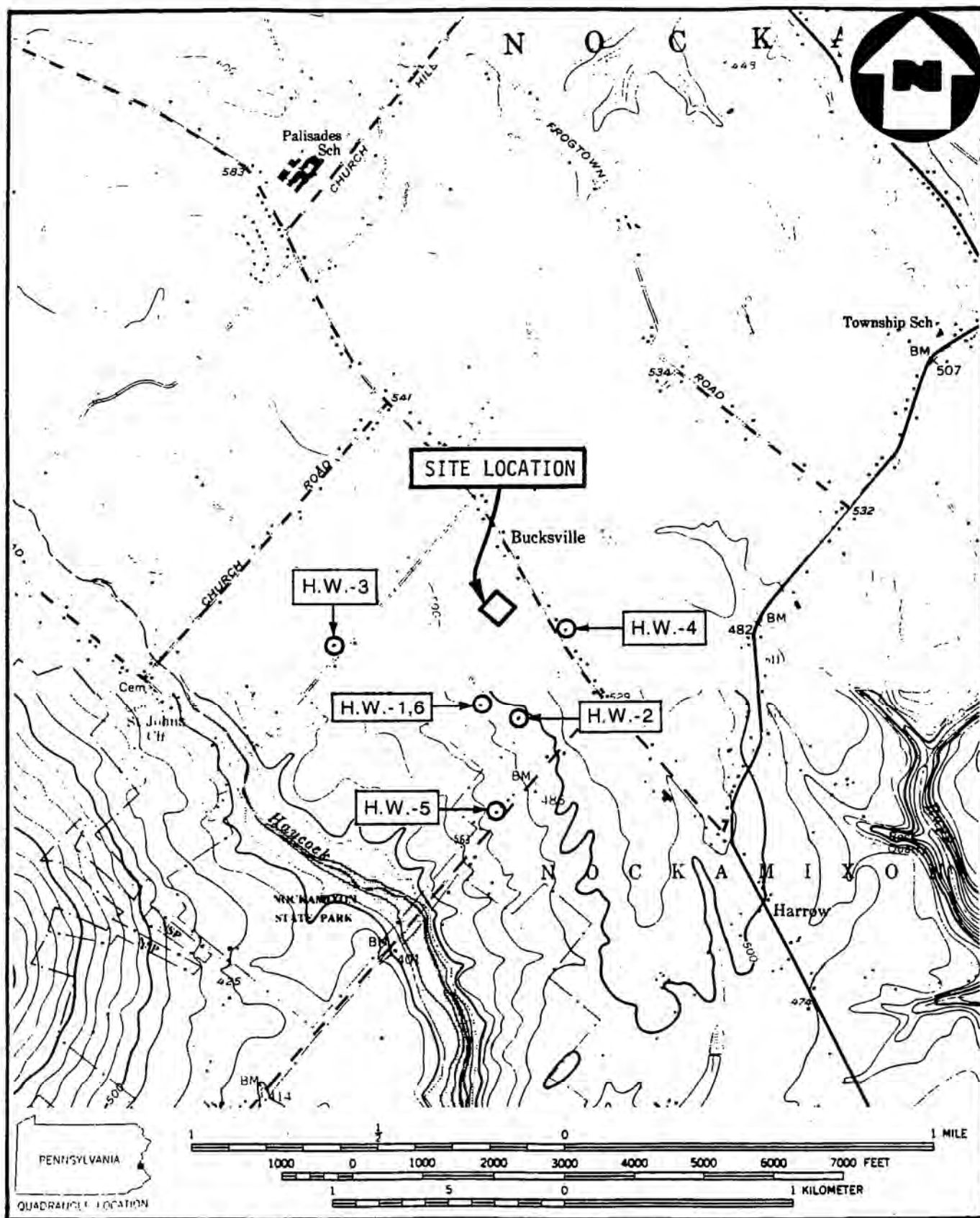
[illegible]



SAMPLE LOCATION MAP
NOCKAMIXON TWP. ROUTE #563
 (NO SCALE)

FIGURE 5.1





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



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.

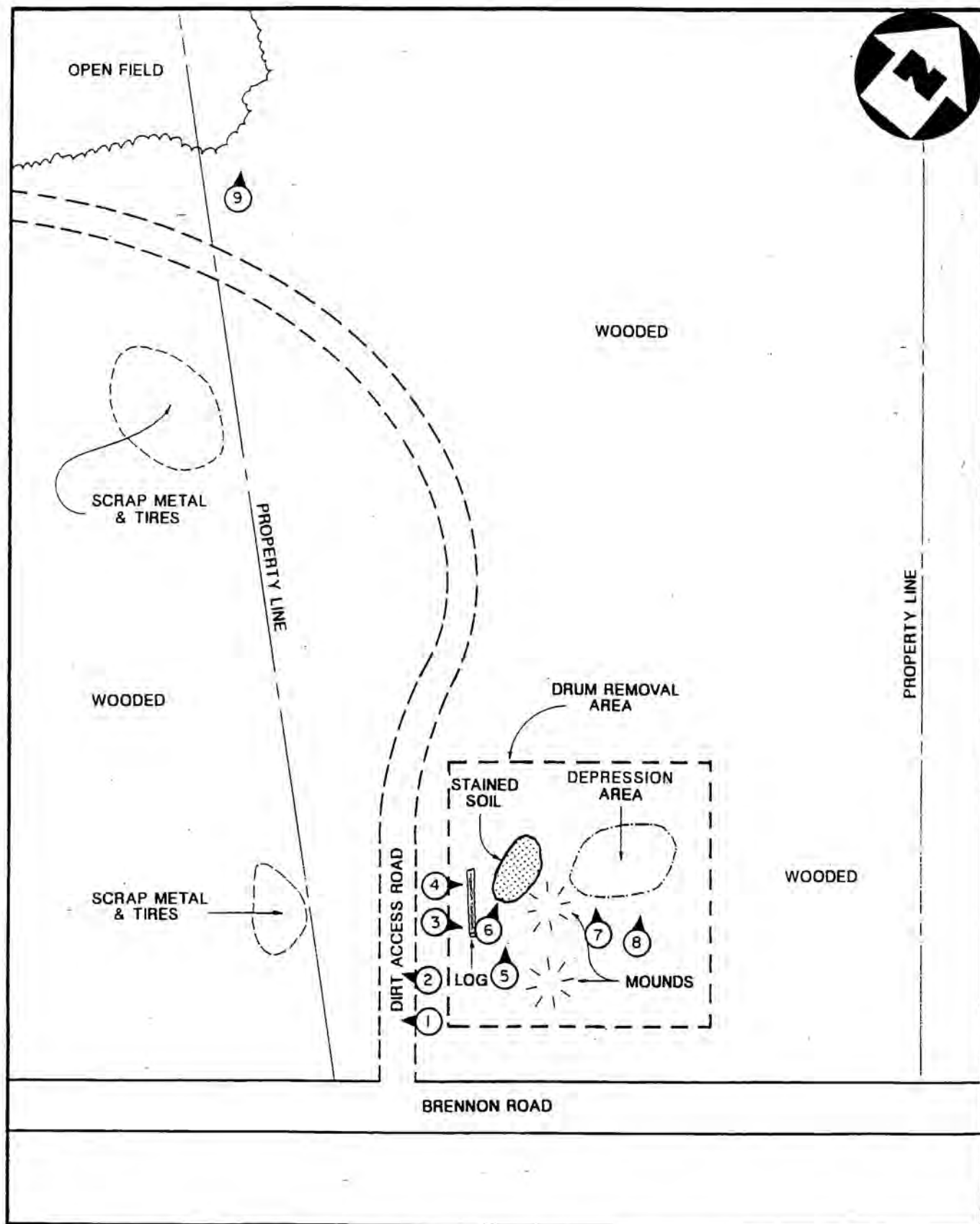


PHOTO LOCATION MAP
 NOCKAMIXON TWP. ROUTE #563
 (NO SCALE)

FIGURE 5.3





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

F3-8903-20

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
PA | 2483

II. SITE NAME AND LOCATION

01 SITE NAME (Label, address, or descriptive name of site) Nockamixon Township		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Route 563				
03 CITY Ottsville		04 STATE PA	05 ZIP CODE 18942	06 COUNTY - Bucks	07 COUNTY CODE 617	08 CONG DIST
09 COORDINATES LATITUDE 4 0° 3 0' 1 3" N LONGITUDE 7 5° 1 1' 1 7" W		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN				

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 05 / 02 / 89 04 / 12 / 89 MONTH DAY YEAR		02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE	03 YEARS OF OPERATION BEGINNING YEAR _____ ENDING YEAR _____ X UNKNOWN	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <u>NUS Corporation</u> <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER				
05 CHIEF INSPECTOR Ruth Manning		06 TITLE Environmental Scientist	07 ORGANIZATION NUS Corporation	08 TELEPHONE NO. (215) 687-9510
09 OTHER INSPECTORS Genie Waldstein		10 TITLE Toxicologist	11 ORGANIZATION NUS Corporation	12 TELEPHONE NO. (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 Robert Fulton		14 TITLE PA DER	15 ADDRESS PA DER 1875 New Hope Street Norristown, PA 19401	16 TELEPHONE NO. [REDACTED]
Roxanne Miller		Sister of site owner	10 West Water Street Hellertown, PA 18055	[REDACTED]
Heidi Gawron		Site owner	3009 Valley Pine Road Schenectady, NY 12303	[REDACTED]
Rosalice Nuhl		Sister of site owner	Coopersburg, PA 18036	[REDACTED]
Larry Hall		Adjacent property owner	Road No. 1 Box 212 Ottsville, PA 18942	[REDACTED]
17 ACCESS GAINED BY CHECK ONE <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT		18 TIME OF INSPECTION 5-2-89 9:00 A.M. 4-12-89 9:00 A.M.		19 WEATHER CONDITIONS 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 Paul Racette		02 OF (Agency/Organization) U.S. EPA		03 TELEPHONE NO. (215) 597-1073
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Ruth Manning		05 AGENCY NUS Corporation	06 ORGANIZATION FIT 3	07 TELEPHONE NO. (215) 687-9510
				08 DATE 07 / 17 / 89 MONTH DAY YEAR



<input checked="" type="checkbox"/> A. TOXIC	<input checked="" type="checkbox"/> E. SOLUBLE	<input type="checkbox"/> I. HIGHLY VOLATILE
<input type="checkbox"/> B. CORROSIVE	<input type="checkbox"/> F. INFECTIOUS	<input type="checkbox"/> J. EXPLOSIVE
<input type="checkbox"/> C. RADIOACTIVE	<input type="checkbox"/> G. FLAMMABLE	<input type="checkbox"/> K. REACTIVE
<input type="checkbox"/> D. PERSISTENT	<input type="checkbox"/> H. IRRITABLE	<input type="checkbox"/> L. INCOMPATIBLE
		<input type="checkbox"/> M. NOT APPLICABLE

EPA FORM 2070-13(7-81)



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

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
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.



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

L 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 02 ☐ OBSERVED (DATE: 5/2/89) ☐ POTENTIAL ☐ ALLEGED
Include Name(s) of Storage Material, Location of Waste

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 Agency Publications, E. O., News Media, Letters Received, Reports)

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



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

I. IDENTIFICATION
01 STATE PA 02 SITE NUMBER 2483

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED <small>(Check all that apply)</small>	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPOES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE <small>(Specify)</small>				
<input type="checkbox"/> H. LOCAL <small>(Specify)</small>				
<input type="checkbox"/> I. OTHER <small>(Specify)</small>				
<input checked="" type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL <small>(Check all that apply)</small>	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT <small>(Check all that apply)</small>	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCINERATION	<input type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	N/A
<input checked="" type="checkbox"/> C. DRUMS, ABOVE GROUND	50	drums	<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	06 AREA OF SITE
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	10 Acres
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER <small>(Specify)</small>	
<input type="checkbox"/> I. OTHER <small>(Specify)</small>			N/A	

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, DRUMS, 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 sources, references, e.g., 2200 FWS, ADDRESS, ADDRESS, ADDRESS)

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



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 applicable)	02 STATUS	03 DISTANCE TO SITE																		
<table border="0"><tr><td></td><td>SURFACE</td><td>WELL</td></tr><tr><td>COMMUNITY N/A</td><td>A. <input type="checkbox"/></td><td>B. <input type="checkbox"/></td></tr><tr><td>NON-COMMUNITY</td><td>C. <input type="checkbox"/></td><td>D. <input checked="" type="checkbox"/></td></tr></table>		SURFACE	WELL	COMMUNITY N/A	A. <input type="checkbox"/>	B. <input type="checkbox"/>	NON-COMMUNITY	C. <input type="checkbox"/>	D. <input checked="" type="checkbox"/>	<table border="0"><tr><td>ENDANGERED</td><td>AFFECTED</td><td>MONITORED</td></tr><tr><td>A. <input type="checkbox"/></td><td>B. <input type="checkbox"/></td><td>C. <input type="checkbox"/></td></tr><tr><td>D. <input type="checkbox"/></td><td>E. <input checked="" type="checkbox"/></td><td>F. <input type="checkbox"/></td></tr></table>	ENDANGERED	AFFECTED	MONITORED	A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>	D. <input type="checkbox"/>	E. <input checked="" type="checkbox"/>	F. <input type="checkbox"/>	A. _____ (mi) B. 1000 ft (mi)
	SURFACE	WELL																		
COMMUNITY N/A	A. <input type="checkbox"/>	B. <input type="checkbox"/>																		
NON-COMMUNITY	C. <input type="checkbox"/>	D. <input checked="" type="checkbox"/>																		
ENDANGERED	AFFECTED	MONITORED																		
A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>																		
D. <input type="checkbox"/>	E. <input checked="" type="checkbox"/>	F. <input type="checkbox"/>																		

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)				
<input checked="" type="checkbox"/> A. ONLY SOURCE FOR DRINKING <input type="checkbox"/> B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL IRRIGATION (No other water resource available)				
<input type="checkbox"/> C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available) <input type="checkbox"/> D. NOT USED, UNUSEABLE				
02 POPULATION SERVED BY GROUND WATER 3172		03 DISTANCE TO NEAREST DRINKING WATER WELL 1000 ft (mi)		
04 DEPTH TO GROUNDWATER 200 (ft)	05 DIRECTION OF GROUNDWATER FLOW to the southwest	06 DEPTH TO AQUIFER OF CONCERN 200 (ft)	07 POTENTIAL YIELD OF AQUIFER 360,000 (gpd)	08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

09 DESCRIPTION OF WELLS (including location, depth, and distance 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
<input checked="" type="checkbox"/> YES COMMENTS Percolation through precipitation.	<input checked="" type="checkbox"/> YES COMMENTS To streams.
<input type="checkbox"/> NO	<input type="checkbox"/> NO

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)			
<input checked="" type="checkbox"/> A. RESERVOIR, RECREATION DRINKING WATER SOURCE <input type="checkbox"/> B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES <input type="checkbox"/> C. COMMERCIAL, INDUSTRIAL <input type="checkbox"/> 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			02 DISTANCE TO NEAREST POPULATION
ONE (1) MILE OF SITE A. 585 NO. OF PERSONS	TWO (2) MILES OF SITE B. 904 NO. OF PERSONS	THREE (3) MILES OF SITE C. 1683 NO. OF PERSONS	1000 ft (mi)
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 238		04 DISTANCE TO NEAREST OFF-SITE BUILDING 1000 ft (mi)	

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

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



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 (Choose one) $10^{-5} - 10^{-7}$ cm/sec
☐ A. $10^{-6} - 10^{-8}$ 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 (Choose 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 ($10^{-4} - 10^{-3}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-3} cm/sec)

03 DEPTH TO BEDROCK

4-20 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

unknown (ft)

05 SOIL pH

5.1-6.0

06 NET PRECIPITATION

9.4 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.75 (in)

08 SLOPE

SITE SLOPE
<1 %

DIRECTION OF SITE SLOPE
southwest

TERRAIN AVERAGE SLOPE
<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 (1/2 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 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., data used, agency 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.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - 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 <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF <u>U.S. EPA</u> <small>Name of organization or individual</small>
03 MAPS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	04 LOCATION OF MAPS <u>NUS FIT 3. Site Inspection Report. TDD No. F3-8903-20.</u>

V. OTHER FIELD DATA COLLECTED (Provide pertinent observations)

None.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., data files, letters received, notes)

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



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

L IDENTIFICATION

01 STATE 02 SITE NUMBER
PA 2483

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME Heidi Gawron		02 D+B NUMBER		08 NAME N/A		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 3009 Valley Pine Road		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
06 CITY Schenectady		08 STATE NY	07 ZIP CODE 12303	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
III. PREVIOUS OWNER(S) (List prior owners below)				IV. REALTY OWNER(S) (If applicable: list prior owners below)			
01 NAME William Schulberger		02 D+B NUMBER		01 NAME N/A		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) unknown		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 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	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 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	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 STATE	07 ZIP CODE
V. SOURCES OF INFORMATION (List sources of information, e.g., owner files, previous reports, etc.)							
NUS FIT 3. Site inspection, April 12 and May 2, 1989.							



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, APO #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, APO #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first; previous 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, APO #, etc.) unknown		04 SIC CODE		12 STREET ADDRESS (P.O. Box, APO #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
09 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, APO #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, APO #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
09 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, APO #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, APO #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (List sources of information, e.g., owner files, records, interviews)							
NUS FIT 3. Site inspection. April 12 and May 2, 1989.							



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 sources of information, e.g., owner files, laboratory findings, etc.)



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

L IDENTIFICATION
01 STATE 02 SITE NUMBER
PA 2483

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



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

I. IDENTIFICATION

01 STATE PA 02 SITE NUMBER 2483

II. PAST RESPONSE ACTIVITIES / Comments

01 ☐ P. 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 documents, interviews, A.G., other files, agency records, etc.

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



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

L IDENTIFICATION

01 STATE 02 SITE NUMBER
PA 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 (See Appendix A, Part 11, Appendix B, Part 11)

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

1. United States Geological Survey. Riegelsville, Pennsylvania Quadrangle, 7.5 Minute Series. Topographic Map. 1956, photorevised 1973. Combined with Bedminster, Pennsylvania Quadrangle, 7.5 Minute Series. Topographic Map. 1957, photorevised 1983; and Cumberville, Pennsylvania Quadrangle, 7.5 Minute Series. Topographic Map. 1955, photorevised 1973.
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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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7. NUS Corporation, FIT 3. Home Well Surveys. November 1, 1988.
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.

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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.
16. Geyer, Alan R., and J. Peter Wilshusen, Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey. Engineering Characteristics of the Rocks of Pennsylvania. Environmental Geology Report 1, 1982.
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. Climatology 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.

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

SELECTED SAMPLE ORDER
 SAMPLING DATE(s): 4-12-89
 CASE NUMBER: 11756
 STATE/COUNTY CODE: 42-017
 EPA NUMBER: PA2483

SAMPLE NUMBER:		CAR21	CAR22	CP882	CN934	CX870	CX871
SAMPLE ID:		HW-5	HW-6	HW-1	HW-2	HW-3	HW-4
LOCATION:		LINDLEY	DUP OF HW-1	HALL	MILLER	POTTER	ARRIGO
TYPE OF DATA:	PH:						
	FIELD MEASUREMENTS:		7.4	7.4	7.6	6.9	7.2
	PERCENT SOLIDS:	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG
	VOLATILES						
DILUTION FACTOR:		1.0	1.0	1.0	1.0	1.0	1.0
SAMPLE NUMBER:		CAR21	CAR22	CP882	CN934	CX870	CX871
UNITS:		ug/l	ug/l	ug/l	ug/l	ug/l	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
SAMPLE NUMBER:		CAR21	CAR22	CP882	CN934	CX870	CX871
UNITS:		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l

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

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

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

SELECTED SAMPLE ORDER
 SAMPLING DATE(S): 4-12-89
 CASE NUMBER: 11756
 STATE/COUNTY CODE: 42-017
 EPA NUMBER: PA2483

SAMPLE NUMBER:		MCAF38		MCAF39		MCBH82		MCV688		MCV686		MCV687	
SAMPLE ID:		HW 2		HW-3		HW-1		HW-6		HW-4		HW-5	
LOCATION:		MILLER		POTTER		HALL		DUP OF HW-1		ARRIGO		LINDLEY	
		POTABLE		POTABLE		POTABLE				POTABLE		POTABLE	
		SOFTENER		SOFTNER		PRETREATED						NO TREATMENT	
		NO ODOR		NO ODOR		NO ODOR						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:													
INORGANICS													
DILUTION FACTOR:		: GFAA		1.000		1.000		1.000		1.000		1.000	
		: ICP		1.000		1.000		1.000		1.000		1.000	
		: Hg		1.000		1.000		1.000		1.000		1.000	
		: CN		1.000		1.000		1.000		1.000		1.000	
TYPE OF DATA:		MCAF38		MCAF39		MCBH82		MCV688		MCV686		MCV687	
SAMPLE NUMBER:		UNITS:		ug/l		ug/l		ug/l		ug/l		ug/l	
DET. LIMIT	CRQL (@=IDL)	184.00 B		256.00 B		111.00 B		131.00 B		488.00 B		2.20	
@ 100.00	aluminum	3.20											
@ 2.00	arsenic	41.80		72.10		72.70		115.00					
@ 29.00	barium	17.00 B		19.20 B									
@ 5.00	cadmium	74500.00											
@ 770.00	calcium	49.40 B		48.60 B		66800.00		69500.00		97600.00		73200.00	
@ 8.00	chromium	49.60 J		67.30 J		42.50 J		415.00 B		41.80 J		41.70 J	
@ 22.00	copper	681.00 B		512.00 B		255.00 B		415.00 B		622.00 B		182.00 B	
@ 100.00	iron	24.40 B		17.10 B		6.00 B		34.80 B		14.70 B		53.30 B	
@ 1.00	lead (anal. by GFAA)	15300.00		15800.00		16500.00		17400.00				13900.00	
@ 760.00	magnesium												
@ 14.00	manganese	0.30		28.80		1600.00		1500.00		1900.00		2000.00	
@ 0.20	mercury	1200.00											
@ 27.00	nickel												
@ 1060.00	potassium	18400.00		101000.00		19400.00		18500.00		15500.00		17.70 B	
@ 10.00	silver	113.00		24.20		142.00		143.00		483.00		18100.00	
@ 700.00	sodium												
@ 17.00	zinc												

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

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

SELECTED SAMPLE ORDER
SAMPLING DATE(S): 4-12-89
CASE NUMBER: 11756
STATE/COUNTY CODE: 42-017
EPA NUMBER: PA2483

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	DUP OF SOL-1	ON-SITE	ON-SITE	OFF-SITE	BLANK
		ACCESSIBLE		ACCESSIBLE	ACCESSIBLE	ACCESSIBLE	BLANK
		NO VEG		STRESS VEG	STRESS VEG	STRESS VEG	
		OIL STAIN		MUDDY	MUDDY	NO ODOR/MUD	
		7.8	7.2	7.4	7.4	6.5	7.4
PH:							
FIELD MEASUREMENTS:		NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	NONE>BKG	
PERCENT SOLIDS:		81.0%	81.0%	75.0%	66.0%	66.0%	
VOLATILES							
DILUTION FACTOR:		152.0	152.0	160.0	350.0	1.4	1.0
TYPE OF DATA:							
DET. LIMIT		CAR23	CAR24	CAR26	CAR27	CAR28	CAR29
(RQL (@=IDL))		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
5.00 methylene chloride		160.00 B	460.00 B	620.00 B	660.00 B	3.00 B	
10.00 acetone		230.00 B		620.00 B	800.00 B	4.00 B	
5.00 1,1-dichloroethene							
5.00 total-1,2-dichloroethene		280.00J@	300.00 J	2800.00 D	2600.00		
5.00 1,1,1-trichloroethane		2100.00	2200.00	8600.00	7800.00		
5.00 trichloroethene							
5.00 tetrachloroethene		22000.00 @	25000.00	44000.00 D	43000.00		
SEMIVOLATILES							
DILUTION FACTOR:		1300.0	1400.0	280.0	260.0	39.0	1.0
TYPE OF DATA:							
DET. LIMIT		CAR23	CAR24	CAR26	CAR27	CAR28	CAR29
(RQL (@=IDL))		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	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
TYPE OF DATA:							
DET. LIMIT		CAR23	CAR24	CAR26	CAR27	CAR28	CAR29
(RQL (@=IDL))		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
1.00 aroclor-1254		5200.00	5200.00				

Comments: @=result reported from reanalysis
D= result reported from diluted

SITE NAME: Nockamixon TWP. RTE 563
TOD NUMBER: F3-8903-20
LAB NAMES: CLAYTON NOVI. ANALYTICAL RESOURCES INC. CHEMTECH CONSULTING

SELECTED SAMPLE ORDER
SAMPLING DATE(s): 4-12-89
CASE NUMBER: 11756
STATE/COUNTY CODE:
EPA NUMBER:

42-017
PA2483

SAMPLE NUMBER: MCV694
SAMPLE ID: AQ-0
LOCATION: AQUEOUS
BLANK

PH: 7.4

FIELD MEASUREMENTS:
PERCENT SOLIDS:

TYPE OF DATA: DILUTION FACTOR: : GFAA 1.000
: ICP 1.000
: Hg 1.000
: CN 1.000

DET. LIMIT	SAMPLE NUMBER:	MCV694
CRQL (@IDL)	UNITS:	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		

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

SELECTED SAMPLE ORDER
 SAMPLING DATE(S): 4-12-89
 CASE NUMBER: 11756
 STATE/COUNTY CODE: 42-017
 EPA NUMBER: PA2483

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 7.8 NONE>BKG 81.0%	DUP OF SOL-1 7.2 NONE>BKG 84.3%	on site access stress veg. muddy 7.4 NONE>BKG 80.3%	ON-SITE ACCESSIBLE STRESS VEG MUDDY 7.4 NONE>BKG 80.0%	OFF-SITE BKG ACCESSIBLE STRESS VEG NO ODOR/MUD 6.5 NONE>BKG 66.0%
FIELD MEASUREMENTS:		PH: 7.8	7.2	7.4	7.4	6.5
PERCENT SOLIDS:		NONE>BKG 81.0%	NONE>BKG 84.3%	NONE>BKG 80.3%	NONE>BKG 80.0%	NONE>BKG 66.0%
INORGANICS						
DILUTION FACTOR:		: GFAA				
		: ICP				
		: Hg				
		: CN				
TYPE OF DATA:						
DET. LIMIT						
CRQL (@=IDL)						
@ 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	9580.00	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, CAR34, CAR70, CAR71 and CP582	
CAR23	VOA	5300	ug/kg	TOIC(6)/unk	unsatd HC of unknown substitution
	↓	1700		unk/TOIC(6)	poss aromatic hydrocarbon
		970	↓		Satd HC
	BNA	22,000		15C	C ₁₄ H ₂₂ O - 1,3,4,5-tetramethylphenol
	↓	220,000		unk/TOIC(7)	unknown aromatics - poss. sub. phenols
		255,000		TOT(4)	Satd HC
		450,000		TOT/unk	unsatd HC of unknown substitution (1)
✓	↓	280,000	↓	TOT(7)/unk	unknowns
CAR24	VOA	920	ug/kg		Satd HC
	↓	5500		TOIC(6)/unk	unsatd HC of unknown substit.
	BNA	33000		TOT(2)/unk	terpene/phenol
	↓	64000			phthalate
		72000		unk	aromatic, poss. substituted phenol
	↓	17000		unk	poss aromatic
		750,000		TOIC(6)/unk	unsatd HC of unknown substitution
↓	↓	74,000	↓	TOT(2)	Satd HC
CAR26	VOA	20100	ug/kg	TOT	Satd HC
	↓	4500		15C	C ₉ H ₁₈ - trimethyl cyclohexane
		8800		TOIC(2)/unk	unknown - poss cyclic
	↓	18000		TOIC(6)/unk	unsatd HC of unknown substitution
	BNA	73500		TOT(4)	Satd HC
✓	↓	105000	↓	TOT(6)/unk	unsatd HC of unk. substit.
CAR27	VOA	10000	ug/kg	TOIC(3)/unk	C ₉ H ₁₈ - trimethyl cyclohexane
	↓	23200			Satd HC
		2900		unk	possible cyclic HC
	BNA	175000		TOT(13)	Satd HC
✓	↓	82,000	↓	unk/TOIC(6)	unsatd HC of unknown substit.
CAR28	VOA	18	ug/kg		2,5-dimethyl-3-methylene-1,5-hexadiene - C ₉ H ₁₄
	↓	735		TOT(7)/unk	C ₁₀ H ₁₆ cyclohex - pinene
	BNA	17,500		TOT(8)/unk	unsatd HC of unknown substit.
↓	↓	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.

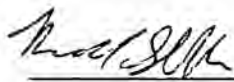
7.2.2.3 Support Data

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 sorptive 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~~X~~ 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 7.6×10^{-5} and 3.3×10^{-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 1.6×10^{-4} and 1.1×10^{-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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Denice Taylor, Toxicologist

Report reviewed by Elizabeth A. Quinn
Elizabeth A. Quinn, Senior Toxicologist

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APPENDIX A

EPA SITE NO.: PA 2423
REGION: III

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

Aqueous: CAR 21, 22, 29, 34, CP882,
CXB 70, CXB 71, CN 934

CHECK (✓) IF YES
OR IDENTIFY
ATTACHMENT NO.

[illegible]

FRACTION	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H ₂ O	CONTAMINANTS (CONCENTRATION / DETECTION LIMIT)
VCA	low level aqueous lab blbk		VB1/E ₁ 4/13/89		lab 5.7 6.5	meth ₂ 2.6 ug/l (2) acetone 7.0 ug/l (2)
VCA	low aq lab blbk		VB1/E ₂ 4/14/89		lab 6.5	meth ₂ 5.1 ug/l acetone 6.5 ug/l (2)
VCA	low aq field blbk		CAR29 4/13/89		NUS 5.7 6.5 19.2	meth ₂ 3.2 ug/l (2) acetone 5.8 ug/l (2) TCE 3.8 ug/l (2)
BNA	low aq lab blbk		SB1/E ₁		lab	none detected
BNA	low aq field blbk		CAR29		NUS	none detected
PES	lab + field blks				lab NUS	none detected

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

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 180 ug/l of TCE. ∴ probably TCE carryover from CAR22 to CAR29 - (2%) . TCE value was used to generate sample results, however (only sample 0870)

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

[illegible]

NLS = no library search conducted

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-09-0035Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21Matrix 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 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 limitsSpike Recovery: 3 out of 10 outside limits

COMMENTS:

 $125-50 = 75$
 $117-50 = 67$
 $RPD (75/84) \approx 11\%$
 $RPD (84/67) \approx 22\%$

low recovery
due to sample
variation in % conc.

0075

2A
WATER VOLATILE SURROGATE RECOVERY

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

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

EPA	S1	S2	S3	OTHER	TOT
SAMPLE NO.	(TOL)#	(BFB)#	(DCE)#		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

0074

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: CLAYTON NOVI Contract: 58-09-0035
 Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21
 Lab File ID: E5606 BFB Injection Date: 04/13/89
 Instrument ID: SE 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	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	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

160 ug/l PCE
 4 ug/l PCE
 160 ug/l PCE
 4 ug/l PCE

some phenomenon may be occurring in CX870 as occurred in 1429

0079

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	S1	S2	S3	S4	S5	S6	OTHER	TOT
SAMPLE NO.	(NBZ)#	(FBP)#	(TPH)#	(PHL)#	(2FP)#	(TBP)#		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

11756-3-201-01

30

WATER SEMIVOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI

Contract: 68-09-0035

Lab Code: CLAYTN Case No.: 11756

SAS No.:

SDG No.: GAR21

Matrix Spike - EPA Sample No.: CN934

COMPOUND	SPIKE	SAMPLE	MS	MS	REC #	QC
	ADDED	CONCENTRATION	CONCENTRATION	%	LIMITS	
Phenol	200	0	96.8	43	12-86	
2-Chlorophenol	200	0	169	85	127-123	
1,4-Dichlorobenzene	100	0	56.7	57	136-97	
N-Nitroso-di-n-prop.(1)	100	0	73.8	74	141-116	
1,2,4-Trichlorobenzene	100	0	60.1	60	139-98	
4-Chloro-3-methylphenol	200	0	181	91	123-97	
Acenaphthene	100	0	80.3	80	146-118	
4-Nitrophenol	200	0	63.2	62	110-80	
2,4-Dinitrotoluene	100	0	84.3	84	124-96	
Pentachlorophenol	200	0	183	92	9-103	
Pyrene	100	0	127	127	126-127	

COMPOUND	SPIKE	MSD	REC #	RPD #	RPD	REC.
	ADDED	CONCENTRATION	%	%	QC LIMITS	
Phenol	200	82.6	41	5	42	112-86
2-Chlorophenol	200	152	76	11	40	127-123
1,4-Dichlorobenzene	100	69.9	70	-20	28	136-97
N-Nitroso-di-n-prop.(1)	100	97.9	98	-28	38	141-116
1,2,4-Trichlorobenzene	100	78.3	78	-26	28	139-98
4-Chloro-3-methylphenol	200	170	85	7	42	123-97
Acenaphthene	100	96.7	97	-19	31	146-118
4-Nitrophenol	200	70.9	91	-9	50	110-80
2,4-Dinitrotoluene	100	90.9	91	-8	38	124-96
Pentachlorophenol	200	167	84	9	50	9-103
Pyrene	100	126	126	1	31	126-127

(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:

0167

FORM III SV-1

1/87 Rev.

11756 • 3-300-01

2E
WATER PESTICIDE SURROGATE RECOVERY

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

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

	EPA	SI	OTHER
	SAMPLE NO.	(DBC)#	
	=====	=====	=====
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)

SI (DBC) = Dibutylchloroendate

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

0298

11756-3-301-01

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CLAYTON NOVI Contract: 68-09-0035Lab Code: CLAYTN Case No.: 11756 SAS No.: _____ SDG No.: CAR21Matrix 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 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 limitsSpike Recovery: 0 out of 12 outside limits

COMMENTS:

0299

EPA SITE NO.: PA2483
REGION: DE

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
SAR23-28, CW137

[illegible][illegible]

BLANK ANALYSIS RESULTS FOR TARGET COMPOUNDS // 256

[illegible]

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

COMMENTS:

- (1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.
-
- (2) RESULT INFERRED FROM QUANTITATION LIST, DIAGNOSTICS, CHROMATOGRAM AND/OR SPECTRA.

364195

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

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

SAMPLE #	FRACTION	SCAN # (S) OR P.T	ESTIMATED CONCENTRATION	COMPOUND NAME	COMMENTS
VB121	VOA	347	<1% ISO 644	MS	644
		456	3%		763
		487	4%		1178
		586	5%	2-butenone?	
		857+	2% ISO 763		
		1053	<1% ISO 1178		
		1210	1%	xylene?	
		1268	1%	xylene?	
		1412	1%		
		1534	9%		
		1585	4%		
		1616	1%		
VB122	VOA	192	1% ISO 229	MS	
		509	<1% ISO 539		
		947	10% ISO 682		
CW131	VOA	192	2% ISO 229	MS	
		272	1% ISO 229		
		461	<1% ISO 539		
		508	1% ISO 539		
		852	<1% ISO 682		
		933	2% ISO 682		
		949	5% ISO 682		
SP11	BVA	1538	5%	(41, 55, 67, 68, 69, 81, 83, 93, 96, 109, 110)	507
		280	8% ISO 7	MS	729
		1600	2% ISO 729		1049
		1866	5% ISO 1313		1313
		1565	1% ISO 1799		1799
		1729	1% ISO 1799		2044
		1850	1% ISO 1799		
		1865	2% ISO 1799		
		1990	3% ISO 2044		
		2115	1% ISO 2044		
		2136	3%		
		2165	4%	(double peak)	
		2286	3%		
		2175	1%		
		2180	1%		

NLS = no library search conducted

28. 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	S1	S2	S3	OTHER	TOT
SAMPLE NO. (TOL) #	(BFB) #	(DCE) #			
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

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	S1	S2	S3	OTHER	TOT
	SAMPLE NO.	(TOL)#	(BFB)#	(DCE)#		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

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23Matrix 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 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 limitsSpike Recovery: 0 out of 10 outside limits

COMMENTS:

$$10 \text{ mV} \times \frac{50 \mu\text{e}}{100 \mu\text{e}} = 5 \text{ dF}$$

VOA - solids 11752

sum/ms etc

(df = 150)

↑
lowest

<p>CH2V field amp</p> <p>300</p> <p>2200</p> <p>25,000</p>	<p>msd</p> <p>720</p> <p>440</p> <p>2800 (high)</p> <p>2700 (high)</p> <p>22,000 (high)</p>	<p>ms</p> <p>470</p> <p>550</p> <p>250</p> <p>21,000</p> <p>$(73.23 - 50) \times 150 = 3500$</p>	<p>CH2V 23</p> <p>160</p> <p>280</p> <p>240</p> <p>2100</p> <p>21,000</p> <p>ms limit + cont + diff from sample</p>	<p>CH2</p> <p>TC3</p> <p>TC3</p> <p>TC3</p> <p>TC3</p>
--	---	---	---	--

<p>① lowest - 4.8/3</p> <p>⑤ highest</p> <p>⑤ highest</p> <p>⑥ within cal range</p>	<p>2607 (24)</p> <p>1000</p> <p>1300</p> <p>2800</p> <p>7700</p> <p>154000</p>	<p>26</p> <p>620</p> <p>620</p> <p>8600</p> <p>52,000</p>	<p>CH2</p> <p>TC3</p> <p>TC3</p> <p>TC3</p> <p>TC3</p>
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SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023Lab Code: ARI Case No.: 11866 SAS No.: _____ SDG No.: CAR23Matrix Spike - EPA Sample No.: CAR26 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 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 limitsSpike Recovery: 0 out of 10 outside limits

COMMENTS:

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

avei: (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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/kg) ug/kg

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	BD
67-64-1	Acetone	440	BD
75-15-0	Carbon Disulfide	770	U
75-35-4	1,1-Dichloroethene	770	U
75-35-3	1,1-Dichloroethane	770	U
940-59-0	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	2200	U
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

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 (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 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

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

SPIKE	MSD	MSD	%	GC LIMITS
ADDED	CONCENTRATION	CONCENTRATION	REC #	REC.
(ug/kg)	(ug/kg)	(ug/kg)	RPD #	RPD
=====				
Phenol	9350	5470	59	35
2-Chlorophenol	9350	6310	67	50
1,4-Dichlorobenzene	4670	2770	59	27
N-Nitroso-di-n-prop. (1)	4670	2620	56	38
1,2,4-Trichlorobenzene	4670	3290	70	23
4-Chloro-3-methylphenol	9350	7180	77	33
Acenaphthene	4670	3320	71	19
4-Nitrophenol	9350	6280	67	50
2,4-Dinitrotoluene	4670	3950	85	47
Pentachlorophenol	9350	3810	41	47
Pyrene	4670	3350	72	36

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

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

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

COMMENTS:

FORM III SV-2

1/97 Rev.

000281

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 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
(20-150)

S1 (DBC) = Dibutylchloroendate

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

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.: _____

ACQ SPLS: MCAF 38-39
MCB482
mcg 686-688, mcg 694

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

	AREAS EXAMINED IN DETAIL					PROBLEM AREAS IDENTIFIED					SUPPORT DOCUMENTATION ATTACHMENTS				
	CHECK (✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW					CHECK (✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW					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

[illegible]

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

COMMENTS:

- (1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.
(2) RESULT INFERRED FROM RAW DATA

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} _{5/3}

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				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum				120.0	162.91	135.8	98.52	82.1
Antimony								
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
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

X-10
res. to
from
ICP

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ~~MACF38~~^{MCAF38} 5/3

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)						Preparation Blank C		M
			1	C	2	C	3	C			
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	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

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ~~MACF38~~ ^{MACF38} _{5/31}

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)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
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

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ~~MACF38~~ ^{MACF38} _{5/11}

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)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
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

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.:

MCAF38

MACF38

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): $\mu\text{g/L}$

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
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

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ~~MACF38~~^{MACF38}_{5/6}

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)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
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

U.S. EPA - CLP

3
BLANKS

Lab Name: Chemtech Consulting Group

Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ^{MACF38}~~MACF38~~_{sh}

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)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
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

U.S. EPA - CLP

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~~ ^{MACF38} _{5/2}

ICP ID Number: P1

ICS Source: EMSL-LV

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum	511000	508000	553900 551645	540700.0	106.4	463000	505200.0	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

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

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

MCAF38S

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: MCAF38
MCAF38-7/11

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	500.0	113.3		P
Arsenic	75-125	49.4500	3.2500	40.0	115.5		F
Barium	75-125	2031.4000	41.8100	2000.0	99.5		P
Beryllium	75-125	59.6100	4.0000	50.0	119.2		P
Cadmium	75-125	56.0500	17.0400	50.0	78.0		P
Calcium							
Chromium	75-125	246.7600	49.3900	200.0	98.7		NR
Cobalt	75-125	500.7800	12.0000	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	20.0 500.0	58.0 107.7	N	P F
Magnesium							
Manganese	75-125	500.1200	14.0000	500.0	100.0		P
Mercury	75-125	1.4000	0.3000	1.0	110.0		CV
Nickel	75-125	495.5500	27.0000	500.0	99.1		P
Potassium							
Selenium	75-125	9.4000	2.0000	10.0	94.0		NR
Silver	75-125	14.6400	10.0000	50.0	29.3	N	F
Sodium							
Thallium	75-125	42.3500	3.0000	50.0	84.7		NR
Vanadium	75-125	537.1000	19.0000	500.0	107.4		F
Zinc	75-125	672.3100	113.0900	500.0	111.8		P
Zyanide	75-125	47.0000	5.0000	50.0	94.0		C

Comments:

Lead result det from MSA, initial res = 13.2 ug/l \Rightarrow 91% recovery.

025

U.S. EPA - CLP

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.: MCAF38^{7/31}

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
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

LABORATORY CONTROL SAMPLE

7

Contract: 68-W8-0061

Lab Name: Chemtech Consulting Group

Case No.: 11756

SAS No.:

SDG No.: ~~MAGF38~~
MCAF 38

Solid LCS Source:

Aqueous LCS Source: FMSL-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	242.0	268.67	111.0					
Nickel	10000.0	9900.00	99.0					
Potassium	104.0	105.20	101.2					
Selenium	242.0	259.49	107.2					
Silver	25750.0	25973.00	100.9					
Sodium	49.0	45.60	93.1					
Thallium	252.0	282.32	112.0					
Vanadium	1460.0	1704.70	116.8					
Zinc								
Cyanide								

8 AA
STANDARD ADDITION RESULTS

SDG No.: ~~MACF38~~ ^{MACF38} _{5/31}

[illegible]

MCY686L

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

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ~~MACF38~~ ^{MACF38}

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	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
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		$\frac{diff}{5} < IDL$ 50		(64)		NR
Sodium	15489.00		17451.00		12.7		P
Thallium							F
Vanadium	19.00	U					NR
Zinc	483.23		$\frac{diff}{5} < IDL$ 398.50		17.5		P

MCAT 175
IDL 2 mg/l

Spike Recovery Evaluation Form

Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted PDS Recovery	MSA Result (if needed)	Final Result Reported
MCATF38	3.2	90				3.2 ug/l ✓
MCATF38SP	49.4	-				116 % ✓
MCATF39	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 ✓
MCATF38	ND	64				U ✓
38SP	9.8	-				98 % ✓
MCATF39	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 ✓
MCATF38	ND	115				U ✓
38SP	42	-				84 % ✓
MCATF39	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 ✓

440

Sample Se (100)
2 ug/l

Sample Se (650)
2 ug/l

Netal RB
IDL _____

Spike Recovery Evaluation Form

(#20)

Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted PDS Recovery	MSA Result (if needed)	Final Result Reported
MCAF38	13.2	51 h/cv			24.4	24.4 ✓
MCAF38SP	31.4	5 —				(91%) closing loss to cell
MCAF39	25 h/cv	10 re-run	re-run: 17.1	91		17.1 49/p
39-DUP	14.4	107				(14.4)
MCBN82	6.0	84	re-run 8.4	90		6.0 49/p ✓
MCy686	10.5	138	10.5		14.7	14.7 49/p ✓
MCy687	33.4	119			53.3	53.3 49/p ✓ lower
MCy688	23.4	59			34.8	34.8 49/p ✓ lower
MCy694	12.8	102				12.8 49/p ✓

PB 0018
 24.7 25.4 MCAF39DA %R=107✓
 MEAN= 25.1 STD.DEV.= 0.4 COEF.VAR.= 1.66 %

 PB 0019 MCBH82 (03) Ren
 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 MUY686 (04) MSA
 10.5 10.4
 MEAN= 10.5 STD.DEV.= 0.1 COEF.VAR.= 0.88 %

PB 0027 MUY688 (06) MSA
 24.3 23.5
 MEAN= 23.9 STD.DEV.= 0.5 COEF.VAR.= 2.03 %

 PB 0028 MUY688A 2R=59
 31.8 27.7
 MEAN= 29.8 STD.DEV.= 2.5 COEF.VAR.= 8.40 %

 PB 0029 MUY694 (07)
 11.6 11.1
 MEAN= 12.8 STD.DEV.= 1.6 COEF.VAR.= 12.78 %

 PB 0030 MUY694A %R=102
 21.9 24.1
 MEAN= 23.0 STD.DEV.= 1.4 COEF.VAR.= 5.93 %

 PB 0031 MCAF39 (02)
 17.7 15.6
 MEAN= 17.1 STD.DEV.= 0.7 COEF.VAR.= 3.99 %

 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
 27.3 9.6
 MEAN= 8.4 STD.DEV.= 1.6 COEF.VAR.= 18.54 %

 PB 0034 MCBH82A 9.0% 2nd time for CV > 20
 12.7 7.5
 MEAN= 10.2 STD.DEV.= 3.5 COEF.VAR.= 34.59 %

EPA SITE NO.: PA 2483
REGION: III

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

SOLIDS:
msy 1089-693

SUPPORT
DOCUMENTATION
ATTACHMENTS

CHECK (✓) IF YES
OR IDENTIFY
ATTACHMENT NO.

[illegible]

BLANK ANALYSIS RESULTS

[illegible]

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

28
CRDL STANDARD FOR AA AND ICP

Lab Name: KEYSTONE ENVIRONMENTAL

Contract: 68-WB-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								
Arsenic	10.0	10.70	107.0	120.0	91.83	76.5	71.65	59.7
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

000015

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)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
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

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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)						C	Prepa- ration Blank	C	M
			1	C	2	C	3	C				
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												

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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)						C	Prepa- ration Blank	C	M
			1	C	2	C	3	C				
Aluminum												
Antimony												
Arsenic			2.2	U	2.2	U						F
Barium												
Beryllium												
Cadmium												
Calcium												
Chromium												
Cobalt												
Copper												
Iron												
Lead												
Magnesium												
Manganese												
Mercury												
Nickel												
Potassium												
Selenium			3.4	U	3.4	U						F
Silver												
Sodium												
Thallium												
Vanadium												
Zinc												
Cyanide												

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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		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	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

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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)	Sample Result (SR)	Spike Added (SA)	%R	QIM
Aluminum						NR
Antimony	75-125	18.3745	7.4908 U	122.4	15.0	NIP
Arsenic	75-125	18.2619	13.7465 <i>(MSA)</i>	9.8	76.1	NIP 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	95.0429	61.2	4.3	NIP <i>expln</i>
Iron						NR
Lead		58.4333	65.7038	5076A 4.9	-148.4	F <i>ok</i>
Magnesium						NR
Manganese	75-125	776.4749	326.2179	122.4	367.9	NIP <i>sp. M</i>
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	NIP
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, (20R = 84%)

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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 ZR	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	ZR	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

U.S. EPA - CLP

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		594.9942		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

ek record

000022

KEYSTONE DC# 11866-03-06

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8

STANDARD ADDITION RESULTS

Lab Name: KEYSTONE ENVIRONMENTAL

Contract: 68-WB-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 ABS	2 ADD CON ABS	3 ADD CON 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	

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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	% Differ- ence	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		<i>idfl</i> <i>IA</i> 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	XP
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

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Spike Recovery Evaluation Form

Sample ID	Instr. Level Result	PDS Recovery	Diluted Result	Diluted $\mu\text{g/g}$ Recovery	MSA Result (if needed)	Final Result Reported
MCy689	32.	hi	20.8 (62)	75	56.2	13.7 mg/kg ✓
dup	hi RPD	hi RPD	19.3 (72)	100		(9.4) mg/kg ✓
(+40) SP	—	—	75 (37.5)	—		(84%) ✓
690	—	—	19.3 (12)	62	59.2	14.1 mg/kg ✓
691	—	—	57 (2x)	50	63.4	15.8 mg/kg ✓
692	—	—	40 (2x)	112		12.1 mg/kg ✓
693	(17.4) ✓	40	23 (2x)	77	29.9	8.6 mg/kg ✓
MCy689	2.0 hi RPD	0%	ND (2x)	91		2x U ✓
dup	ND	23	ND 2x	153		2x U ✓
(+40) 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	no min 4.0	81		1.1 mg/kg ✓
MCy689	hi	hi	268 (11x)	119		65.7 mg/kg P=98
dup	hi	hi	292	89		70 mg/kg P=121
(+20) SP	hi	hi	234	—		0% SR 77.54
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
MCy689	ND	74				U ✓
dup	ND	90				—
(+50) SP	38.3	—				(77%) ✓
690	ND	81				—
691	ND	75				—
692	ND	76				—
693	ND	86				✓

1.5
2.2

3.4

1.2

2.0

APPENDIX B

1A
VOLATILE 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: 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

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

CAS NO. COMPOUND 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

Lab Name: ANALYTICAL RESOURCES INC.

Contract: 68D90023

CAR23

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

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

FORM I SV-1

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CAR23

Contract: 68D90023

Lab Name: ANALYTICAL RESOURCES INC.

SDG No.: CAR23

SAS No.:

Case No.: 11866

Lab Code: ARI

Lab Sample ID: 596AR

Matrix: (soil/water) SOIL

Lab File ID: 596AR

Sample wt/vol: 38.9 (g/mL) g

Date Received: 05/03/89

Level: (low/med) LOW

Date Extracted: 05/08/89

Moisture: not dec. 19 dec. 20

Date Analyzed: 05/28/89

Extraction: (SepF/Cont/Sonc) SONC

Dilution Factor: 21

IPC Cleanup: (Y/N) Y PH: 7.8

CONCENTRATION UNITS:

g

(ug/L or ug/kg) ug/kg

COMPOUND

CAS NO.

65000	U	3-Nitroaniline
13000	U	Acenaphthene
65000	U	2,4-Dinitrophenol
65000	U	4-Nitrophenol
13000	U	Dibenzofuran
13000	U	2,4-Dinitrotoluene
13000	U	Diethylphthalate
13000	U	4-Chlorophenyl-phenylether
86-73-7	U	Fluorene
100-10-6	U	4-Nitroaniline
354-32-1	U	4,6-Dinitro-2-methylphenol
86-30-6	U	N-Nitrosodiphenylamine (1)
101-55-3	U	4-Bromophenyl-phenylether
118-74-1	U	Hexachlorobenzene
87-86-5	U	Pentachlorophenol
85-01-8	U	Phenanthrene
120-12-7	U	Anthracene
84-74-2	U	Di-n-Butylphthalate
206-44-0	U	Fluoranthene
129-00-0	U	Pyrene
85-68-7	U	Butylbenzylphthalate
91-94-1	U	3,3'-Dichlorobenzidine
86-55-3	U	Benzo(a)Anthracene
218-01-9	U	Chrysene
117-91-7	U	bis(2-Ethylhexyl)Phthalate
117-84-0	U	Di-n-Octyl Phthalate
205-99-2	U	Benzo(b)Fluoranthene
207-08-9	U	Benzo(k)Fluoranthene
50-32-8	U	Benzo(a)Pyrene
193-39-5	U	Indeno(1,2,3-cd)Pyrene
83-70-3	U	Dibenz(a,h)Anthracene
191-24-2	U	Benzo(g,h,i)Perylene
(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

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

CAS NO. COMPOUND 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	U
11096-82-5	Aroclor-1260	310	U

1E
VOLATILE 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: 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

Number 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	1130	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 133)	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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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
78-07-5	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

SFC Cleanup: (Y/N) Y pH: 7.2

Dilution Factor: 24

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	63000	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

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

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

99-09-2-----	3-Nitroaniline	68000	U
83-32-9-----	Acenaphthene	14000	U
51-29-5-----	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
36-73-7-----	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	U
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

PESTICIDE ORGANICS ANALYSIS DATA SHEET

10

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: 595B

Sample wt/vol: 29.2 (g/mL) g

Lab File ID:

Level: (low/med) LOW

Date Received: 05/03/89

% Moisture: not dec. 19

Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 05/16/89

BPC Cleanup: (Y/N) Y PH: 7.2

Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/kg) ug/kg

219-84-6	alpha-BHC	14	U
219-85-7	beta-BHC	14	U
219-86-8	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
759-98-5	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	Arcclor-1016	140	U
11104-28-2	Arcclor-1221	140	U
11141-16-5	Arcclor-1232	140	U
53469-21-9	Arcclor-1242	140	U
12672-29-6	Arcclor-1248	140	U
11097-69-1	Arcclor-1254	5200	U
11096-82-5	Arcclor-1260	280	U

FORM I PEST

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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: F3576B

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

SPC 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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI

Contract: 88-09-0035

Lab Code: CLAYIN Case No.: 11756 SAS No.: 506 No.: CAR21

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: ES614

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 0

74-87-3	Chloromethane	10	10
74-83-9	Bromomethane	10	10
75-01-4	Vinyl Chloride	10	10
75-00-3	Chloroethane	10	10
75-09-2	Methylene Chloride	5	10
67-64-1	Acetone	10	10
75-15-0	Carbon Disulfide	5	10
75-35-4	1,1-Dichloroethane	8	10
75-35-3	1,1-Dichloroethane	5	10
540-59-0	1,2-Dichloroethane (total)	9	10
67-66-3	Chloroform	5	10
107-06-2	1,2-Dichloroethane	5	10
78-93-3	2-Butanone	10	10
71-55-6	1,1,1-Trichloroethane	25	10
56-23-5	Carbon Tetrachloride	5	10
108-05-4	Vinyl Acetate	10	10
75-27-4	Bromodichloromethane	5	10
78-87-5	1,2-Dichloropropane	5	10
1061-01-5	cis-1,3-Dichloropropene	5	10
79-01-6	Trichloroethene	160	10
124-48-1	Dibromochloromethane	5	10
79-00-5	1,1,2-Trichloroethane	5	10
71-43-2	Benzene	5	10
1061-02-6	trans-1,3-Dichloropropene	5	10
75-25-2	Bromoform	5	10
108-10-1	4-Methyl-2-Pentanone	10	10
591-78-6	2-Hexanone	10	10
127-18-4	Tetrachloroethene	18	10
79-34-5	1,1,2,2-Tetrachloroethane	5	10
108-88-3	Toluene	5	10
108-90-7	Chlorobenzene	5	10
100-41-4	Ethylbenzene	5	10
100-42-5	Styrene	5	10
1330-20-7	Total Xylenes	5	10

0107

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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: 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:		Q
		(ug/L or ug/Kg)	UG/L	
108-95-2	Phenol	10	10	
111-44-4	bis(2-Chloroethyl)Ether	10	10	
95-57-8	2-Chlorophenol	10	10	
541-73-1	1,3-Dichlorobenzene	10	10	
106-46-7	1,4-Dichlorobenzene	10	10	
100-51-6	Benzyl Alcohol	10	10	
95-50-1	1,2-Dichlorobenzene	10	10	
95-48-7	2-Methylphenol	10	10	
39638-32-9	bis(2-Chloroisopropyl)Ether	10	10	
106-44-5	4-Methylphenol	10	10	
621-54-7	N-Nitroso-Di-n-Propylamine	10	10	
67-72-1	Hexachloroethane	10	10	
98-95-3	Nitrobenzene	10	10	
78-59-1	Isophorone	10	10	
88-75-5	2-Nitrophenol	10	10	
105-67-9	2,4-Dimethylphenol	10	10	
65-35-0	Benzoic Acid	50	10	
111-91-1	bis(2-Chloroethoxy)Methane	10	10	
120-83-2	2,4-Dichlorophenol	10	10	
120-82-1	1,2,4-Trichlorobenzene	10	10	
91-20-3	Naphthalene	10	10	
106-47-8	4-Chloroaniline	10	10	
87-68-3	Hexachlorobutadiene	10	10	
59-50-7	4-Chloro-3-Methylphenol	10	10	
91-57-6	2-Methylnaphthalene	10	10	
77-47-4	Hexachlorocyclopentadiene	10	10	
98-06-2	2,4,6-Trichlorophenol	10	10	
95-95-4	2,4,5-Trichlorophenol	50	10	
91-58-7	2-Chloronaphthalene	10	10	
88-74-4	2-Nitroaniline	50	10	
131-11-3	Dimethyl Phthalate	10	10	
208-96-8	Acenaphthylene	10	10	
606-20-2	2,6-Dinitrotoluene	10	10	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CP882

Lab Name: CLAYTON NOVIContract: 68-D9-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725091Sample wt/vol: 1000 (g/mL) MLLab File ID: F4394Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/17/89GPC Cleanup: (Y/N) N pH: 7.2Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	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
34-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
36-73-7	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

ID
 PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NGUI Contract: 68-09-0035
 Lab Code: CLAYTN Case No.: 11755 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
 SPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050IU	
319-85-7	beta-BHC	0.050IU	
319-86-8	delta-BHC	0.050IU	
58-89-9	gamma-BHC (Lindane)	0.050IU	
76-44-8	Heptachlor	0.050IU	
309-00-2	Aldrin	0.050IU	
1024-57-3	Heptachlor epoxide	0.050IU	
959-98-8	Endosulfan I	0.050IU	
68-57-1	Dieldrin	0.10IU	
72-55-9	4,4'-DDE	0.10IU	
72-20-8	Endrin	0.10IU	
33213-65-9	Endosulfan II	0.10IU	
72-54-8	4,4'-DDD	0.10IU	
1031-07-8	Endosulfan sulfate	0.10IU	
58-29-3	4,4'-DDT	0.10IU	
72-43-5	Methoxychlor	0.50IU	
53494-70-5	Endrin ketone	0.10IU	
5103-71-9	alpha-Chlordane	0.50IU	
5103-74-2	gamma-Chlordane	0.50IU	
8001-35-2	Toxaphene	1.0IU	
12674-11-2	Aroclor-1015	0.50IU	
11104-28-2	Aroclor-1221	0.50IU	
11141-16-5	Aroclor-1232	0.50IU	
53469-21-9	Aroclor-1242	0.50IU	
12672-29-6	Aroclor-1248	0.50IU	
11097-69-1	Aroclor-1254	1.0IU	
11096-82-5	Aroclor-1260	1.0IU	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CP882

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

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

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

Number TICs found: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

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IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CP882

Lab Name: CLAYTON NOVI Contract: 58-09-0035
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

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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0199

11756-3-110-04

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Contract: 68-09-0035

Lab Name: CLAYTON NOVI

Lab Code: CLAYTN Case No.: 11756 SAS No.: SD6 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

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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-Dichloroethane	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethane (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	I
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	I
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	I
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

0100

FORM I VOA

1/87 Rev.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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) <u>UG/L</u>	<u>Q</u>
108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl) Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-6	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39638-32-9	bis(2-Chloroisopropyl) Ether	10	10
106-44-5	4-Methylphenol	10	10
621-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
79-59-1	Isophorone	10	10
88-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy) Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
606-20-2	2,6-Dinitrotoluene	10	10

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CN934

Lab Name: CLAYTON NOVI Contract: 88-09-0035

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
95-73-7	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

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934

Lab Name: CLAYTON NOVIContract: 58-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDS No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725087Sample wt/Vol: 1000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____

dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/19/89GPC Cleanup: (Y/N) NpH: 7.0Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
319-84-6	alpha-BHC	0.0501U	
319-85-7	beta-BHC	0.0501U	
319-86-8	delta-BHC	0.0501U	
58-89-9	gamma-BHC (Lindane)	0.0501U	
76-44-8	Heptachlor	0.0501U	
309-00-2	Aldrin	0.0501U	
1024-57-3	Heptachlor epoxide	0.0501U	
959-98-8	Endosulfan I	0.0501U	
60-57-1	Dieldrin	0.101U	
72-55-9	4,4'-DDE	0.101U	
72-20-8	Endrin	0.101U	
33213-65-9	Endosulfan II	0.101U	
72-54-8	4,4'-DDD	0.101U	
1031-07-8	Endosulfan sulfate	0.101U	
50-29-3	4,4'-DDT	0.101U	
72-43-5	Methoxychlor	0.501U	
53484-70-5	Endrin ketone	0.101U	
5103-71-9	alpha-Chlordane	0.501U	
5103-74-2	gamma-Chlordane	0.501U	
8001-35-2	Toxaphene	1.01U	
12674-11-2	Aroclor-1016	0.501U	
11104-28-2	Aroclor-1221	0.501U	
11141-16-5	Aroclor-1232	0.501U	
53469-21-9	Aroclor-1242	0.501U	
12672-29-6	Aroclor-1248	0.501U	
11097-69-1	Aroclor-1254	1.01U	
11096-82-5	Aroclor-1260	1.01U	

0310

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CN934

Lab Name: CLAYTON NOVIContract: 68-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725071Sample wt/vol: 5.0 (g/mL) MLLab File ID: E5623Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____

Date Analyzed: 04/14/89Column (pack/cap) PACKDilution Factor: 1.0

CONCENTRATION UNITS:

Number TICs found: 0(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0101

FORM I VOA-TIC

1/87

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CN934

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: 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:

Number TICs found: 0(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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0194

VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

EPA SAMPLE NO.

7105-3-110-06

CX870

Contract: 68-D9-0035

Lab Name: CLAYTON NOVI

Lab Code: CLAYIN Case No.: 11756 SAS No.: 506 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

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

Q

CAS NO.

COMPOUND

74-87-3	Chloromethane	10	10
74-83-9	Bromomethane	10	10
75-01-4	Vinyl Chloride	10	10
75-00-3	Chloroethane	10	10
75-09-2	Methylene Chloride	5	10
67-64-1	Acetone	10	10
75-15-0	Carbon Disulfide	5	10
75-35-4	1,1-Dichloroethane	5	10
75-35-3	1,1-Dichloroethane	5	10
540-59-0	1,2-Dichloroethane (total)	5	10
57-66-3	Chloroform	5	10
107-06-2	1,2-Dichloroethane	5	10
78-93-3	2-Butanone	10	10
71-55-6	1,1,1-Trichloroethane	5	10
56-23-5	Carbon Tetrachloride	5	10
108-05-4	Vinyl Acetate	10	10
75-27-4	Bromodichloromethane	5	10
78-87-5	1,2-Dichloropropane	5	10
10061-01-5	cis-1,3-Dichloropropene	5	10
79-01-6	Trichloroethene	9	10
124-48-1	Dibromochloromethane	5	10
79-00-5	1,1,2-Trichloroethane	5	10
71-43-2	Benzene	5	10
10061-02-6	trans-1,3-Dichloropropene	5	10
75-25-2	Bromoform	5	10
108-10-1	4-Methyl-2-Pentanone	10	10
591-78-6	2-Hexanone	10	10
127-18-4	Tetrachloroethene	5	10
79-34-5	1,1,2,2-Tetrachloroethane	5	10
108-88-3	Toluene	5	10
108-90-7	Chlorobenzene	5	10
100-41-4	Ethylbenzene	5	10
100-42-5	Styrene	5	10
1330-20-7	Total Xylenes	5	10

0116

FORM I VOA

1/87 Rev.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl) Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-6	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39538-32-9	bis(2-Chloroisopropyl) Ether	10	10
106-44-5	4-Methylphenol	10	10
621-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
98-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-35-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy) Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
605-20-2	2,6-Dinitrotoluene	10	10

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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CX870

Contract: 58-09-0035

Lab Name: CLAYTON NOVI

506 No.: CAR21

SAS No.:

Case No.: 11756

Lab Code: CLAYIN

Lab Sample ID: 725093

Matrix: (soil/water) WATER

Lab File ID: F4395

Sample wt/vol: 1000 (g/mL) ML

Date Received: 04/13/89

Level: (low/med) LOW

Date Extracted: 04/13/89

% Moisture: not dec. dec.

Date Analyzed: 04/17/89

Extraction: (SepF/Cont/Sonc) SEPF

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.6

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/L

50	10	50	99-09-2	3-Nitroaniline
50	10	50	83-32-9	Acenaphthene
50	10	50	51-28-5	2,4-Dinitrophenol
50	10	50	100-02-7	4-Nitrophenol
50	10	50	132-64-9	Dibenzofuran
10	10	10	121-14-2	2,4-Dinitrotoluene
10	10	10	84-56-2	Diethylphthalate
10	10	10	7005-72-3	4-Chlorophenyl-phenylether
10	10	10	86-73-7	Fluorene
50	10	50	100-10-6	4-Nitroaniline
50	10	50	534-52-1	4,6-Dinitro-2-Methylphenol
10	10	10	86-30-5	N-Nitrosodiphenylamine (1)
10	10	10	101-55-3	4-Bromophenyl-phenylether
10	10	10	118-74-1	Hexachlorobenzene
50	10	50	87-86-5	Pentachlorophenol
10	10	10	85-01-8	Phenanthrene
10	10	10	120-12-7	Anthracene
10	10	10	84-74-2	Di-n-Butylphthalate
10	10	10	206-44-0	Fluoranthene
10	10	10	129-00-0	Pyrene
10	10	10	85-68-7	Butylbenzylphthalate
20	10	20	91-94-1	3,3'-Dichlorobenzidine
10	10	10	56-55-3	Benzo(a)Anthracene
10	10	10	218-01-9	Chrysene
2	10	2	117-81-7	Bis(2-Ethylhexyl)Phthalate
10	10	10	117-84-0	Di-n-Octyl Phthalate
10	10	10	205-99-2	Benzo(b)Fluoranthene
10	10	10	207-08-9	Benzo(k)Fluoranthene
10	10	10	50-32-8	Benzo(a)Pyrene
10	10	10	193-39-5	Indeno(1,2,3-cd)Pyrene
10	10	10	52-70-3	Dibenz(a,h)Anthracene
10	10	10	191-24-2	Benzo(g,h,i)Perylene

0203

(1) - Cannot be separated from Diphenylamine

0316

Lab Name: CLAYTON NOV1 Contract: 88-09-0035 CX870

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

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

Sample wt/vol: 100g (g/mL) ML Lab File ID: 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: 7.5 Dilution Factor: 1.0

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

CAS NO. COMPOUND

319-84-6	alpha-BHC	0.050iu
319-85-7	beta-BHC	0.050iu
319-86-8	delta-BHC	0.050iu
58-89-9	gamma-BHC (lindane)	0.050iu
76-44-8	Heptachlor	0.050iu
309-00-2	lindrin	0.050iu
1024-57-3	Heptachlor epoxide	0.050iu
959-98-8	Endosulfan I	0.050iu
60-57-1	Dieldrin	0.10iu
72-55-9	4,4'-DDE	0.10iu
72-20-8	Endrin	0.10iu
33213-65-9	Endosulfan II	0.10iu
72-54-8	4,4'-DDD	0.10iu
1031-07-8	Endosulfan sulfate	0.10iu
50-29-3	4,4'-DDT	0.10iu
72-43-5	Methoxychlor	0.50iu
53494-70-5	Endrin ketone	0.10iu
5103-71-9	alpha-Chlordane	0.50iu
5103-74-2	gamma-Chlordane	0.50iu
8001-35-2	Toxaphene	1.0iu
12674-11-2	Acetol-1016	0.50iu
11104-28-2	Acetol-1221	0.50iu
11141-15-5	Acetol-1232	0.50iu
53459-21-9	Acetol-1242	0.50iu
12672-29-5	Acetol-1248	0.50iu
11097-59-1	Acetol-1254	1.0iu
11096-82-5	Acetol-1260	1.0iu

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
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0117

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11756 • 3-21-06

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
=====	=====	=====	=====	=====

0304

FORM I SV-TIC

157-82

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

CX871

Contract: 58-09-0035

Lab Name: CLAYTON NOVI

SDG No.: CBR21

Case No.: 11756

Lab Code: CLAYTN

Lab Sample ID: 725079

Matrix: (soil/water) WATER

Lab File ID: E5622

Sample wt/vol: 5.0 (g/mL) ML

Date Received: 04/13/89

Level: (low/med) LOW

Date Analyzed: 04/14/89

% Moisture: not dec.

Dilution Factor: 1.0

Column: (pack/cap) PACK

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/L

10	10	74-87-3	Chloromethane
10	10	74-83-9	Bromomethane
10	10	75-01-4	Vinyl Chloride
10	10	75-00-3	Chloroethane
10	10	75-09-2	Methylene Chloride
10	10	67-64-1	Acetone
5	5	75-15-0	Carbon Disulfide
5	5	75-35-4	1,1-Dichloroethene
5	5	75-35-3	1,1-Dichloroethane
5	5	540-59-0	1,2-Dichloroethene (total)
5	5	67-66-3	Chloroform
5	5	107-06-2	1,2-Dichloroethane
10	10	78-93-3	2-Butanone
5	5	71-55-6	1,1-Trichloroethane
5	5	56-23-5	Carbon Tetrachloride
10	10	108-05-4	Vinyl Acetate
5	5	75-27-4	Bromodichloromethane
5	5	78-87-5	1,2-Dichloropropane
5	5	10061-01-5	cis-1,3-Dichloropropene
5	5	79-01-6	Trichloroethene
5	5	124-48-1	Dibromochloromethane
5	5	79-00-5	1,1,2-Trichloroethane
5	5	71-43-2	Benzene
5	5	10061-02-6	trans-1,3-Dichloropropene
5	5	75-25-2	Bromoform
10	10	108-10-1	4-Methyl-2-Pentanone
10	10	591-78-6	2-Hexanone
5	5	127-18-4	Tetrachloroethene
5	5	79-34-5	1,1,2,2-Tetrachloroethane
5	5	108-88-3	Toluene
5	5	108-90-7	Chlorobenzene
5	5	100-41-4	Ethylbenzene
5	5	100-42-5	Styrene
5	5	1330-20-7	Total Xylenes

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CLAYTON NOVI Contract: 58-D9-0035 CX871

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:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl)Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-6	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39838-32-3	bis(2-Chloroisopropyl)Ether	10	10
106-44-5	4-Methylphenol	10	10
621-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
88-75-5	2-Nitrophenol	10	10
105-67-3	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy)Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
606-20-2	2,6-Dinitrotoluene	10	10

10
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:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

99-09-2	3-Nitroaniline	50	10
83-32-9	Acenaphthene	10	10
51-28-5	2,4-Dinitrophenol	50	10
100-02-7	4-Nitrophenol	50	10
132-64-9	Dibenzofuran	10	10
121-14-2	2,4-Dinitrotoluene	10	10
84-66-2	Diethylphthalate	10	10
7005-72-3	4-Chlorophenyl-phenylether	10	10
86-73-7	Fluorene	10	10
100-10-6	4-Nitroaniline	50	10
534-52-1	4,5-Dinitro-2-Methylphenol	50	10
96-30-6	N-Nitrosodiphenylamine (1)	10	10
101-55-3	4-Bromophenyl-phenylether	10	10
118-74-1	Hexachlorobenzene	10	10
87-86-5	Pentachlorophenol	50	10
85-01-8	Phenanthrene	10	10
120-12-7	Anthracene	10	10
84-74-2	Di-n-Butylphthalate	10	10
206-44-0	Fluoranthene	10	10
129-00-0	Pyrene	10	10
85-68-7	Butylbenzylphthalate	10	10
91-94-1	3,3'-Dichlorobenzidine	20	10
56-55-3	Benzo(a)Anthracene	10	10
218-01-9	Chrysene	10	10
117-81-7	bis(2-Ethylhexyl)Phthalate	10	10
117-84-0	Di-n-Octyl Phthalate	10	10
205-99-2	Benzo(b)Fluoranthene	10	10
207-08-9	Benzo(k)Fluoranthene	10	10
50-32-8	Benzo(a)Pyrene	10	10
193-39-5	Indeno(1,2,3-cd)Pyrene	10	10
53-70-3	Dibenz(a,h)Anthracene	10	10
191-24-2	Benzo(g,h,i)Perylene	10	10

(1) - Cannot be separated from Diphenylamine

0209

11756-3-310-07

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON NOVIContract: 58-D9-0035

CX871

Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725095Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/19/89GPC Cleanup: (Y/N) N pH: 7.1Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q.
319-84-6	alpha-BHC	0.050IU	
319-85-7	beta-BHC	0.050IU	
319-86-8	delta-BHC	0.050IU	
58-89-8	gamma-BHC (Lindane)	0.050IU	
76-44-8	Heptachlor	0.050IU	
309-00-2	Aldrin	0.050IU	
1024-57-3	Heptachlor epoxide	0.050IU	
959-98-8	Endosulfan I	0.050IU	
50-57-1	Dieldrin	0.10IU	
72-55-8	4,4'-DDE	0.10IU	
72-20-8	Endrin	0.10IU	
33213-65-9	Endosulfan II	0.10IU	
72-54-9	4,4'-DDD	0.10IU	
1031-07-8	Endosulfan sulfate	0.10IU	
50-29-3	4,4'-DDT	0.10IU	
72-43-5	Methoxychlor	0.50IU	
53494-70-5	Endrin ketone	0.10IU	
5103-71-9	alpha-Chlordane	0.50IU	
5103-74-2	gamma-Chlordane	0.50IU	
8001-35-2	Toxaphene	1.0IU	
12574-11-2	Aroclor-1016	0.50IU	
11104-28-2	Aroclor-1221	0.50IU	
11141-16-5	Aroclor-1232	0.50IU	
53469-21-9	Aroclor-1242	0.50IU	
12572-29-6	Aroclor-1248	0.50IU	
11097-59-1	Aroclor-1254	1.0IU	
11096-82-5	Aroclor-1260	1.0IU	

0319

FORM I PEST

1/87 Pa

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Number TICs found: 0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0122

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CX871

Lab Name: CLAYTON NOVIContract: 68-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725095Sample wt/vol: 1000 (g/mL) MLLab File ID: F4396Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/17/89GPC Cleanup: (Y/N) N pH: 7.1Dilution Factor: 1.0

CONCENTRATION UNITS:

Number TICs found: 0(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0210

CAR21

Contract: 68-D9-0035

Lab Name: CLAYTON NOVI

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

CONCENTRATION UNITS:

CAS NO. COMPOUND

(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-Dichloroethane	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethane (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	Trichloroethane	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	Tetrachloroethane	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

0083

FORM I VOA

1/87 Rev.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
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
39638-32-3	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

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.
Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) SEPF
Date Analyzed: 04/14/89

GPC Cleanup: (Y/N) N
pH: 5.9
Dilution Factor: 1.0

CAS NO. COMPOUND
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L
0

99-09-2	3-Nitroaniline	50	10
83-32-9	Acenaphthene	10	10
51-28-5	2,4-Dinitrophenol	50	10
100-02-7	4-Nitrophenol	50	10
132-64-9	Dibenzofuran	10	10
121-14-2	2,4-Dinitrotoluene	10	10
84-56-2	Diethylphthalate	10	10
7005-72-3	4-Chlorophenyl-phenylether	10	10
36-73-7	Fluorene	10	10
100-10-6	4-Nitroaniline	50	10
534-52-1	4,6-Dinitro-2-Methylphenol	50	10
86-30-6	N-Nitrosodiphenylamine (1)	10	10
101-55-3	4-Bromophenyl-phenylether	10	10
118-74-1	Hexachlorobenzene	10	10
87-86-5	Pentachlorophenol	50	10
85-01-8	Phenanthrene	10	10
120-12-7	Anthracene	10	10
94-74-2	Di-n-Butylphthalate	10	10
206-44-0	Fluoranthene	10	10
129-00-0	Pyrene	10	10
85-68-7	Butylbenzylphthalate	10	10
91-94-1	3,3'-Dichlorobenzidine	20	10
56-55-3	Benzo(a)Anthracene	10	10
218-01-9	Chrysene	10	10
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	10
117-84-0	Di-n-Octyl Phthalate	10	10
205-99-2	Benzo(b)Fluoranthene	10	10
207-08-9	Benzo(k)Fluoranthene	10	10
50-32-8	Benzo(a)Pyrene	10	10
193-39-5	Indeno(1,2,3-cd)Pyrene	10	10
53-70-3	Dibenz(a,h)Anthracene	10	10
191-24-2	Benzo(g,h,i)Perylene	10	10

(1) - Cannot be separated from Diphenylamine

0178

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CAR21

Lab Name: CLAYTON NOVIContract: 58-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725001Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/19/89GPC Cleanup: (Y/N) N pH: 6.9Dilution Factor: 1.0

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	g
319-84-6	alpha-BHC	0.05010	
319-85-7	beta-BHC	0.05010	
319-86-8	delta-BHC	0.05010	
58-89-9	gamma-BHC (Lindane)	0.05010	
76-44-2	Heptachlor	0.05010	
309-00-2	Aldrin	0.05010	
1024-57-3	Heptachlor epoxide	0.05010	
959-98-8	Endosulfan I	0.05010	
60-57-1	Dieldrin	0.1010	
72-55-9	4,4'-DDE	0.1010	
72-20-8	Endrin	0.1010	
33213-65-9	Endosulfan II	0.1010	
72-54-8	4,4'-DDD	0.1010	
1031-07-9	Endosulfan sulfate	0.1010	
50-29-3	4,4'-DDT	0.1010	
72-43-5	Methoxychlor	0.5010	
53494-70-5	Endrin ketone	0.1010	
5103-71-9	alpha-Chlordane	0.5010	
5103-74-2	gamma-Chlordane	0.5010	
8001-35-2	Toxaphene	1.010	
12674-11-2	Aroclor-1016	0.5010	
11104-28-2	Aroclor-1221	0.5010	
11141-16-5	Aroclor-1232	0.5010	
53459-21-9	Aroclor-1242	0.5010	
12672-29-6	Aroclor-1248	0.5010	
11097-69-1	Aroclor-1254	1.010	
11096-82-5	Aroclor-1260	1.010	

0301

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
=====	=====	=====	=====	=====
_____	_____	_____	_____	_____

0084

11756-3-211-01

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CAR21

Lab Name: CLAYTON NOVIContract: 58-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725081Sample wt/vol: 1000 (g/mL) MLLab File ID: F4353Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/14/89GPC Cleanup: (Y/N) NpH: 6.9Dilution Factor: 1.0Number TICs found: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0179

FORM I SV-TIC

1/87 Rev.

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: 65612

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

74-87-3	Chloromethane	10
74-83-9	Bromomethane	10
75-01-4	Vinyl Chloride	10
75-00-3	Chloroethane	10
75-09-2	Methylene Chloride	5
67-64-1	Acetone	10
75-15-0	Carbon Disulfide	5
75-35-4	1,1-Dichloroethene	8
75-35-3	1,1-Dichloroethane	5
540-59-0	1,2-Dichloroethene (total)	9
67-56-3	Chloroform	5
107-06-2	1,2-Dichloroethane	5
78-93-3	2-Butanone	10
71-55-6	1,1,1-Trichloroethane	26
56-23-5	Carbon Tetrachloride	5
108-05-4	Vinyl Acetate	10
75-27-4	Bromodichloromethane	5
78-87-5	1,2-Dichloropropane	5
10061-01-5	cis-1,3-Dichloropropene	5
79-01-6	Trichloroethene	160
124-48-1	Dibromochloromethane	5
79-00-5	1,1,2-Trichloroethane	5
71-43-2	Benzene	5
10061-02-6	trans-1,3-Dichloropropene	5
75-25-2	Bromoform	5
108-10-1	4-Methyl-2-Pentanone	10
591-78-6	2-Hexanone	10
127-18-4	Tetrachloroethene	18
79-34-5	1,1,2,2-Tetrachloroethane	5
108-88-3	Toluene	5
108-90-7	Chlorobenzene	5
100-41-4	Ethylbenzene	5
100-42-5	Styrene	5
1350-20-7	Total Xylenes	5

0087

FORM I VOA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CLAYTON NOVIContract: 68-09-0035

CAR22

Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SOG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725083Sample wt/vol: 1000 (g/mL) MLLab File ID: F4364Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____

dec. _____

Date Extracted: 04/13/89

Extraction: (SepF/Cont/Sonc) _____

SEPFDate Analyzed: 04/14/89GPC Cleanup: (Y/N) NpH: 7.2Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl) Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
120-51-6	Benzyl Alcohol	10	10
35-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39633-32-3	bis(2-Chloroisopropyl) Ether	10	10
106-44-5	4-Methylphenol	10	10
521-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
98-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy) Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
606-20-2	2,6-Dinitrotoluene	10	10

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

11750 5-210-04

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

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

(1) - Cannot be separated from Diphenylamine

0183

11756.3-310-02

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

ID

Lab Name: CLAYTON MOVI	Contract: 58-09-0035	CAR22
Lab Code: CLAYIN	Case No.: 11756	SAS No.: CAR21
Lab Sample ID: 725083	Lab File ID:	

Matrix: (soil/water) WATER
Sample wt/vol: 100g (g/mL) ML
Level: (low/med) LOW
Date Received: 04/13/89

% Moisture: not dec.
Extraction: (Sepf/Cont/Sonc) SEPF
Date Analyzed: 04/19/89
Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/kg) ug/L

319-84-5	alpha-BHC	0.050iu
319-85-7	beta-BHC	0.050iu
319-86-8	delta-BHC	0.050iu
58-89-9	gamma-BHC (lindane)	0.050iu
76-44-8	Heptachlor	0.050iu
309-00-2	Aldrin	0.050iu
1024-57-3	Heptachlor epoxide	0.050iu
958-98-8	Endosulfan I	0.050iu
50-57-1	Dieldrin	0.10iu
72-55-9	4,4'-DDE	0.10iu
72-20-8	Endrin	0.10iu
33212-65-9	Endosulfan II	0.10iu
72-54-8	4,4'-DDD	0.10iu
1031-07-8	Endosulfan sulfate	0.10iu
50-29-3	4,4'-DDT	0.10iu
72-43-5	Methoxychlor	0.050iu
53494-70-5	Endrin ketone	0.10iu
5103-71-9	alpha-Chlordane	0.050iu
5103-74-2	gamma-Chlordane	0.050iu
8001-35-2	Toxaphene	1.0iu
12574-11-2	Acetol-1016	0.050iu
11044-28-2	Acetol-1221	0.050iu
11141-16-5	Acetol-1232	0.050iu
53459-21-9	Acetol-1242	0.050iu
12572-29-6	Acetol-1248	0.050iu
11097-69-1	Acetol-1254	1.0iu
11096-82-5	Acetol-1260	1.0iu

0304

FORM I PEST

1/87 59

11756 • 3-111-02

IE
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR22

Lab Name: CLAYTON NOVIContract: 68-09-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725067Sample wt/vol: 5.0 (g/mL) MLLab File ID: E5612Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____

Date Analyzed: 04/13/89Column (pack/cap) PACKDilution Factor: 1.0Number TICs found: 0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
_____	_____	_____	_____	_____

0088

IF

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Number TICs found: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

0184

CAR29

Contract: 68-D9-0035

Lab Name: CLAYTON NOVI

Lab Code: CLAYIN Case No.: 11756 SAS No.: SD6 No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: 725069

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 55613

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

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

0096

18
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) <u>UG/L</u>	<u>Q</u>
108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl)Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-8	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39638-32-9	bis(2-Chloroisopropyl)Ether	10	10
106-44-5	4-Methylphenol	10	10
521-54-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
88-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy)Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-58-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
506-20-2	2,6-Dinitrotoluene	10	10

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CAR29

Lab Name: CLAYTON NOVIContract: 68-D9-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725085Sample wt/vol: 1000 (g/mL) MLLab File ID: F4392Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 04/17/89GPC Cleanup: (Y/N) N pH: 7.8Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

99-09-2-----	3-Nitroaniline	50	10
83-32-9-----	Acenaphthene	10	10
51-28-5-----	2,4-Dinitrophenol	50	10
100-02-7-----	4-Nitrophenol	50	10
132-64-9-----	Dibenzofuran	10	10
121-14-2-----	2,4-Dinitrotoluene	10	10
84-66-2-----	Diethylphthalate	10	10
7005-72-3-----	4-Chlorophenyl-phenylether	10	10
36-73-7-----	Fluorene	10	10
100-10-6-----	4-Nitroaniline	50	10
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	10
86-30-6-----	N-Nitrosodiphenylamine (1)	10	10
101-55-3-----	4-Bromophenyl-phenylether	10	10
118-74-1-----	Hexachlorobenzene	10	10
87-86-5-----	Pentachlorophenol	50	10
85-01-8-----	Phenanthrene	10	10
120-12-7-----	Anthracene	10	10
84-74-2-----	Di-n-Butylphthalate	10	10
206-44-0-----	Fluoranthene	10	10
129-00-0-----	Pyrene	10	10
85-68-7-----	Butylbenzylphthalate	10	10
91-94-1-----	3,3'-Dichlorobenzidine	20	10
56-55-3-----	Benzo(a)Anthracene	10	10
218-01-9-----	Chrysene	10	10
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	10
117-84-0-----	Di-n-Octyl Phthalate	10	10
205-99-2-----	Benzo(b)Fluoranthene	10	10
207-08-9-----	Benzo(k)Fluoranthene	10	10
50-32-9-----	Benzo(a)Pyrene	10	10
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	10
53-70-3-----	Dibenz(a,h)Anthracene	10	10
191-24-2-----	Benzo(g,h,i)Perylene	10	10

(1) - Cannot be separated from Diphenylamine

0188

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON NOVI Contract: 68-08-0035 CAR29

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:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050IU	
319-85-7	beta-BHC	0.050IU	
319-85-8	delta-BHC	0.050IU	
58-89-9	gamma-BHC (Lindane)	0.050IU	
76-44-8	Heptachlor	0.050IU	
309-00-2	Aldrin	0.050IU	
1024-57-3	Heptachlor epoxide	0.050IU	
959-98-8	Endosulfan I	0.050IU	
60-57-1	Dieldrin	0.10IU	
72-55-8	4,4'-DDE	0.10IU	
72-20-8	Endrin	0.10IU	
33213-65-9	Endosulfan II	0.10IU	
72-54-8	4,4'-DDD	0.10IU	
1031-07-8	Endosulfan sulfate	0.10IU	
50-29-3	4,4'-DDT	0.10IU	
72-43-5	Methoxychlor	0.50IU	
53494-70-5	Endrin ketone	0.10IU	
5103-71-8	alpha-Chlordane	0.50IU	
5103-74-2	gamma-Chlordane	0.50IU	
8001-35-2	Toxaphene	1.0IU	
12574-11-2	Aroclor-1016	0.50IU	
11104-28-2	Aroclor-1221	0.50IU	
11141-15-5	Aroclor-1232	0.50IU	
53469-21-9	Aroclor-1242	0.50IU	
12572-29-5	Aroclor-1248	0.50IU	
11097-59-1	Aroclor-1254	1.0IU	
11096-82-5	Aroclor-1260	1.0IU	

0307

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CAR29

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: 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
=====	=====	=====	=====	=====

0097

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CAR29

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: 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: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0189

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

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

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	310	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

000080

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) SQNC Date Analyzed: 05/28/89

SPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (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
98-75-5	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

1C
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

SPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (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
334-32-1	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

PESTICIDE 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: 45.5 (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

PC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

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	Arcclor-1016	140	U
11104-28-2	Arcclor-1221	140	U
11141-16-5	Arcclor-1232	140	U
53469-21-9	Arcclor-1242	140	U
12672-29-6	Arcclor-1248	140	U
11097-69-1	Arcclor-1254	280	U
11096-82-5	Arcclor-1260	280	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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	1000	J
10. -	UNKNOWN (HYDROCARBON M/E 67)	22.80	940	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CAR26

Contract: 68D90023

Lab Name: ANALYTICAL RESOURCES INC.

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: F4396DR

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

GFC 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.	D
1.	UNKNOWN (HYDROCARBON M/E 57)	21.17	1400	J
2.	UNKNOWN (HYDROCARBON M/E 57)	22.47	9700	J
3.	UNKNOWN (HYDROCARBON M/E 57)	22.50	1500	J
4.	UNKNOWN (HYDROCARBON M/E 57)	23.72	1200	J
5.	UNKNOWN (HYDROCARBON M/E 57)	23.80	1400	J
6.	UNKNOWN (HYDROCARBON M/E 57)	25.08	1200	J
7.	UNKNOWN (HYDROCARBON M/E 57)	26.05	3200	J
8.	UNKNOWN (HYDROCARBON M/E 57)	26.32	1100	J
9.	UNKNOWN (HYDROCARBON M/E 57)	26.73	1500	J
10.	UNKNOWN (HYDROCARBON M/E 57)	27.18	1700	J
11.	UNKNOWN (HYDROCARBON M/E 55)	27.63	1200	J
12.	UNKNOWN (HYDROCARBON M/E 55)	27.70	1200	J
13.	UNKNOWN (HYDROCARBON M/E 57)	27.93	2700	J
14.	UNKNOWN (HYDROCARBON M/E 57)	28.22	1600	J
15.	UNKNOWN (HYDROCARBON M/E 57)	28.82	3400	J
16.	UNKNOWN (HYDROCARBON M/E 57)	29.05	1800	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	1400	J
20.	UNKNOWN (HYDROCARBON M/E 57)	29.95	1100	J
21.	UNKNOWN (HYDROCARBON M/E 57)	30.73	2000	J
22.	UNKNOWN (HYDROCARBON M/E 57)	31.32	1800	J

1A
VOLATILE 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: 596E

Sample wt/vol: 4.1 (g/mL) G

Lab File ID: F5596E

Level: (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

18
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

SPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2	Phenol	2600	U
111-44-4	bis(2-Chloroethyl)Ether	2600	U
95-57-6	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

SPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (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
117-94-0	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

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: 596E

Sample 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

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: 596E

Sample wt/vol: 4.1 (g/mL) G

Lab File ID: F5596E

Level: (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

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

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

CAS NO. COMPOUND

CAS NO.	COMPOUND	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
124-46-1	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

19
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) <u>UG/KG</u>	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
91-37-6	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

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

CAS NO.	COMPOUND	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

PESTICIDE ORGANICS ANALYSIS DATA SHEET

1D

EPA SAMPLE NO.

Lab Name: ANALYTICAL RESOURCES INC.

Contract: 68D90023

CAR28

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

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	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	Arroclor-1016	97	U
11104-28-2	Arroclor-1221	97	U
11141-16-5	Arroclor-1232	97	U
53469-21-9	Arroclor-1242	97	U
12672-29-6	Arroclor-1248	97	U
11097-69-1	Arroclor-1254	190	U
11096-82-5	Arroclor-1260	190	U

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1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CAR28

Lab Name: ANALYTICAL RESOURCES INC. Contract: 60D90023

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: 25/03/89

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	790	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

VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

CW137

Lab Name: ANALYTICAL RESOURCES INC. Contract: 68D90023

Lab Code: ARI Case No.: 11866 SAS No.: SD6 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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/kg) ug/kg

10	U	Chloromethane	74-87-2
10	U	Bromomethane	74-83-9
10	U	Vinyl Chloride	75-01-4
10	U	Chloroethane	75-00-3
2	U	Methylene Chloride	75-09-2
10	U	Acetone	67-64-1
10	U	Carbon Disulfide	75-15-0
5	U	1,1-Dichloroethane	75-35-4
5	U	1,1-Dichloroethane	75-35-3
5	U	1,2-Dichloroethane (total)	840-59-0
5	U	Chloroform	67-66-3
5	U	1,2-Dichloroethane	107-06-2
5	U	2-Butanone	78-93-3
10	U	1,1,1-Trichloroethane	71-55-6
5	U	Carbon Tetrachloride	56-23-5
5	U	Vinyl Acetate	108-05-4
10	U	Bromodichloromethane	75-27-4
5	U	1,2-Dichloropropane	78-87-5
5	U	cis-1,3-Dichloropropene	10061-01-5
5	U	Trichloroethene	79-01-6
5	U	Dibromochloromethane	124-48-1
5	U	1,1,2-Trichloroethane	79-00-5
5	U	Benzene	71-43-2
5	U	Trans-1,3-Dichloropropene	10061-02-6
5	U	Bromoform	75-25-2
10	U	4-Methyl-2-Pentanone	108-10-1
10	U	2-Hexanone	591-78-6
5	U	Tetrachloroethene	127-18-4
5	U	1,1,2,2-Tetrachloroethane	79-34-5
5	U	Toluene	108-98-3
5	U	Chlorobenzene	108-90-7
5	U	Ethylbenzene	100-41-4
5	U	Styrene	100-42-5
5	U	Total Xylenes	1330-20-7

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CW137

Lab Name: ANALYTICAL RESOURCES INC. Contract: 69D90023

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: FT596C

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
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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

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

CAS NO.

COMPOUND

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
109-10-1	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

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: 596DDL

Sample Wt/vol: 4.1 (g/mL) G

Lab File ID: F5596DDL

Level: (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	SDJ
67-64-1	-----Acetone	1300	SDJ
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

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: 596DDL

Sample wt/vol: 4.1 (g/mL) G

Lab File ID: F5596DDL

Level: (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

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

Number TICs found: 6

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. -	UNKNOWN (HYDROCARBON M/E 57)	18.10	1500	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: F1396FMS

Level: (low/med) LOW Date Received: 05/03/99

% Moisture: not dec. 33 Date Analyzed: 05/05/99

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

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

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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

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

CAS NO. COMPOUND 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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

1C

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: 50.7 (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

SPC Cleanup: (Y/N) Y PH: 6.5

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/kg) ug/kg

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
934-52-1	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
206-47-0	Fluoranthene	440	U
129-00-0	Pyrene	440	U
85-68-7	Butylbenzylphthalate	440	U
91-94-1	3,3'-Dichlorobenzidine	370	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

FORM I SV-2

000562

1D
PESTICIDE 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: _____

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (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

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/kg) ug/kg

1500	U	Chloromethane
1500	U	Bromomethane
1500	U	Vinyl Chloride
1500	U	Chloroethane
75-09-2	U	Methane Chloride
67-64-1	U	Acetone
75-15-0	U	Carbon Disulfide
75-35-4	U	1,1-Dichloroethane
75-35-3	U	1,1-Dichloroethane
540-59-0	U	1,2-Dichloroethane (total)
67-66-3	U	Chloroform
107-06-2	U	1,2-Dichloroethane
78-93-3	U	2-Butanone
71-55-6	U	1,1,1-Trichloroethane
56-23-5	U	Carbon Tetrachloride
108-05-4	U	Vinyl Acetate
75-27-4	U	Bromodichloromethane
78-87-5	U	1,2-Dichloropropane
10061-01-5	U	cis-1,3-Dichloropropene
79-01-6	U	Trichloroethene
124-46-1	U	Dibromochloromethane
79-00-5	U	1,1,2-Trichloroethane
71-43-2	U	Benzene
10061-02-6	U	trans-1,3-Dichloropropene
75-25-2	U	Bromoform
108-10-1	U	4-Methyl-2-Pentanone
591-78-6	U	2-Hexanone
127-18-4	U	Tetrachloroethene
79-34-5	U	1,1,2,2-Tetrachloroethane
108-88-3	U	Toluene
108-90-7	U	Chlorobenzene
100-41-4	U	Ethylbenzene
100-42-5	U	Styrene
1330-20-7	U	Total Xylenes

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG G

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

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
65-35-0-----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: 57.2 (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

PC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

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

CAS NO. COMPOUND 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

CAR28MSD

Contract: 68D90023

Lab Name: ANALYTICAL RESOURCES INC.

SDG No.: CAR23

SAS No.:

Case No.: 11866

Lab Code: ARI

Matrix: (soil/water) SOIL

Lab Sample ID: 596FMSD

Lab File ID:

Sample wt/vol: 68.5 (g/mL) g

Level: (low/med) LOW

Date Received: 05/03/89

Moisture: not dec. 33

Date Extracted: 05/08/89

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 05/16/89

SFC Cleanup: (Y/N) Y

PH: 6.5

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/kg) ug/kg

Q

COMPOUND

CAS NO.

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	9.3	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
11097-59-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

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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) LDW Date Received: _____

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

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/30/89

IPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (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

SPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (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
534-32-1-----	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

SPC 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

1978

CONFIDENTIAL : 68D-0023

Lab Name: ANALYTICAL RESOURCES INC.

SDG No.: CAF23

SAS NO.:

Case No. : 11866

Lab Code: ARI

at 1000 (SOIL/WATER) 1000

Lab Sample ID: 50548

ampla m/Am : 20 (74/5)

2007-07-17

MOI (PESH/MOI) : 7.2.87

68/10/50 : பஞ்சாபு மாகாண அரசு

Moisture: not dec. — dec.

Date Extracted: 05/08/89

Extraction: (Sepf/Cont/Sonc)

3ND9

Date Analyzed: 05/15/89

PC Cleanup: (Y/N) Y PH: _____

PH:

Division Factor: 1.0

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(µg/L or µg/kg)

□

Chemical Name	Code	Value
alpha-BHC	219-87-5	16
Beta-BHC	219-88-7	16
delta-BHC	219-86-8	16
gamma-BHC (Lindane)	58-89-9	16
Heptachlor	76-44-3	16
Lidrin	309-00-2	16
Dieldrin	60-81-1	16
Endosulfan I	959-98-8	16
Heptachlor epoxide	1024-07-2	16
Endosulfan II	33213-65-9	32
DDT	50-29-3	32
Methoxychlor	72-43-5	160
Endrin ketone	33494-70-5	32
alpha-Chlordane	5103-71-9	160
gamma-Chlordane	5102-74-2	160
Toxaphene	8001-35-2	320
Aroclor-1015	12574-11-2	160
Aroclor-1221	11104-28-2	160
Aroclor-1232	11141-16-5	160
Aroclor-1242	53459-21-9	160
Aroclor-1248	12672-29-6	160
Aroclor-1254	11097-67-1	320
Aroclor-1260	11096-82-5	320

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKW1

Lab Name: CLAYTON NQVI 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) SEPE Date Analyzed: 04/19/89

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

319-84-6	alpha-BHC	0.050IU
319-85-7	beta-BHC	0.050IU
319-86-8	delta-BHC	0.050IU
58-89-9	gamma-BHC (Lindane)	0.050IU
75-44-8	Heptachlor	0.050IU
309-00-2	Aldrin	0.050IU
1024-57-3	Heptachlor epoxide	0.050IU
959-98-8	Endosulfan I	0.050IU
60-57-1	Dieldrin	0.10IU
72-55-9	4,4'-DDE	0.10IU
72-20-8	Endrin	0.10IU
33213-65-9	Endosulfan II	0.10IU
72-54-8	4,4'-DDD	0.10IU
1031-07-8	Endosulfan sulfate	0.10IU
50-29-3	4,4'-DDT	0.10IU
72-43-5	Methoxychlor	0.50IU
53494-70-5	Endrin ketone	0.10IU
5103-71-9	alpha-Chlordane	0.50IU
5103-74-2	gamma-Chlordane	0.50IU
8001-35-2	Toxaphene	1.0IU
12674-11-2	Aroclor-1016	0.50IU
11104-28-2	Aroclor-1221	0.50IU
11141-16-5	Aroclor-1232	0.50IU
53469-21-9	Aroclor-1242	0.50IU
12672-29-6	Aroclor-1248	0.50IU
11097-69-1	Aroclor-1254	1.0IU
11096-82-5	Aroclor-1260	1.0IU

0356

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: Q505MB

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
124-46-1	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
=====	=====	=====	=====	=====

VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

VBLKEI

Contract: 68-D9-0035

Lab Name: CLAYTON NOVI Case No.: 11756 SAS No.: SD6 No.: CAR21

Lab Code: CLAYTN Matrix: (soil/water) WATER Lab Sample ID: VBLKEI

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

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L 0

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-Dichloroethane	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethane (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-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: 68-09-0035

Lab Code: CLAYTN Case No.: 11755 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: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

VBLKE2

Contract: 68-D9-0035

Lab Name: CLAYTON NOVI

Lab Code: CLAYTN Case No.: 11756 SAS No.: 506 No.: CAR21

Matrix: (soil/water) WATER Lab Sample ID: VBLKE2

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 55621

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

10	U	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
10	U	78-93-3	2-Butanone
5	U	71-55-6	1,1,1-Trichloroethane
5	U	56-23-5	Carbon Tetrachloride
10	U	108-05-4	Vinyl Acetate
5	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
10	U	108-10-1	4-Methyl-2-Pentanone
10	U	591-78-6	2-Hexanone
5	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

0135

FORM 1 UOA

1/87 Rev.

11756-3-133-02

EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0136

FORM I VOA-TIC

1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK2

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: Q505MB

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

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
=====	=====	=====	=====	=====

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CLAYTON NOVI Contract: 68-09-0035 CN934MS

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

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

SEMIVOLATILE 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: 725089MS

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) <u>UG/L</u>	<u>Q</u>
108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl)Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-6	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39638-32-9	bis(2-Chloroisopropyl)Ether	10	10
106-44-5	4-Methylphenol	10	10
621-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
88-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy)Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
506-20-2	2,6-Dinitrotoluene	10	10

1C
SEMIVOLATILE 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: 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

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

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

(1) - Cannot be separated from Diphenylamine

0291

11756-3-336-01

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CN934MS

Lab Name: CLAYTON NOVI Contract: 58-09-0035

Lab Code: CLAYIN 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) <u>US/L</u>	<u>Q</u>
319-84-6	alpha-BHC	0.050IU	
319-85-7	beta-BHC	0.050IU	
319-86-8	delta-BHC	0.050IU	
58-89-9	gamma-BHC (Lindane)	0.050IU	
75-44-8	Heptachlor	0.050IU	
309-00-2	Aldrin	0.050IU	
1024-57-3	Heptachlor epoxide	0.050IU	
959-98-8	Endosulfan I	0.050IU	
60-57-1	Dieldrin	0.10IU	
72-55-9	4,4'-DDE	0.10IU	
72-20-8	Endrin	0.10IU	
33213-65-9	Endosulfan II	0.10IU	
72-54-8	4,4'-DDD	0.10IU	
1031-07-8	Endosulfan sulfate	0.10IU	
50-29-3	4,4'-DDT	0.10IU	
72-43-5	Methoxychlor	0.50IU	
53494-70-5	Endrin ketone	0.10IU	
5103-71-9	alpha-Chlordane	0.50IU	
5103-74-2	gamma-Chlordane	0.50IU	
8001-35-2	Toxaphene	1.0IU	
12674-11-2	Aroclor-1016	0.50IU	
11104-28-2	Aroclor-1221	0.50IU	
11141-16-5	Aroclor-1232	0.50IU	
53469-21-9	Aroclor-1242	0.50IU	
12672-29-6	Aroclor-1248	0.50IU	
11097-69-1	Aroclor-1254	1.0IU	
11096-82-5	Aroclor-1260	1.0IU	

0359

VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

EPA SAMPLE NO.

11756.3-142-01

CN934MSD

Contract: 68-09-0035

Lab Name: CLAYTON NOVI

SDG No.: CAR21

Case No.: 11756

SAS No.:

Lab Code: CLAYTN

Lab Sample ID: 725071MSD

Matrix: (soil/water) WATER

Lab File ID: E5625

Sample wt/vol: 5.0 (g/mL) ML

Date Received: 04/13/89

Level: (low/med) LOW

Date Analyzed: 04/14/89

% Moisture: not dec.

Dilution Factor: 1.0

Column: (pack/cap) PACK

CONCENTRATION UNITS:

CAS NO. COMPOUND

Q

10	U	Chloromethane	74-87-3
10	U	Bromomethane	74-83-9
10	U	Vinyl Chloride	75-01-4
10	U	Chloroethane	75-00-3
5	U	Methylene Chloride	75-09-2
10	U	Acetone	67-64-1
5	U	Carbon Disulfide	75-15-0
5	U	1,1-Dichloroethane	75-35-4
5	U	1,1-Dichloroethane	75-35-3
5	U	1,2-Dichloroethane (total)	540-59-0
5	U	Chloroform	67-66-3
5	U	1,2-Dichloroethane	107-06-2
10	U	2-Butanone	78-93-3
7	U	1,1,1-Trichloroethane	71-55-6
5	U	Carbon Tetrachloride	56-23-5
10	U	Vinyl Acetate	108-05-4
5	U	Bromodichloromethane	75-27-4
5	U	1,2-Dichloropropane	78-87-5
5	U	cis-1,3-Dichloropropene	10061-01-5
5	U	Trichloroethane	79-01-6
5	U	Dibromochloromethane	124-48-1
5	U	1,1,2-Trichloroethane	79-00-5
5	U	Benzene	71-43-2
5	U	Trans-1,3-Dichloropropene	10061-02-6
5	U	Bromoform	75-25-2
10	U	4-Methyl-2-Pentanone	108-10-1
10	U	2-Hexanone	591-78-6
3	U	Tetrachloroethane	127-18-4
5	U	1,1,2,2-Tetrachloroethane	79-34-5
5	U	Toluene	108-88-3
5	U	Chlorobenzene	108-90-7
5	U	Ethylbenzene	100-41-4
5	U	Styrene	100-42-5
5	U	Total Xylenes	1330-20-7

FORM 1 00133

1/87 Re.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CN934MSD

Lab Name: CLAYTON NOVIContract: 68-D9-0035Lab Code: CLAYTNCase No.: 11756

SAS No.: _____

SDG No.: CAR21Matrix: (soil/water) WATERLab Sample ID: 725088Sample wt/vol: 1000 (g/mL) MLLab File ID: F4398Level: (low/med) LOWDate Received: 04/13/89

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/13/89Extraction: (SepF/Cont/Sonc) SEPEDate Analyzed: 04/17/89GPC Cleanup: (Y/N) N pH: 7.0Dilution Factor: 1.0

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

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.: _____ SOG 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

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2	3-Nitroaniline	50	10
83-32-9	Acenaphthene	10	10
51-28-5	2,4-Dinitrophenol	50	10
100-02-7	4-Nitrophenol	50	10
132-64-9	Dibenzofuran	10	10
121-14-2	2,4-Dinitrotoluene	10	10
84-66-2	Diethylphthalate	10	10
7005-72-3	4-Chlorophenyl-phenylether	10	10
86-73-7	Fluorene	10	10
100-10-6	4-Nitroaniline	50	10
534-52-1	4,6-Dinitro-2-Methylphenol	50	10
86-30-6	N-Nitrosodiphenylamine (1)	10	10
101-55-3	4-Bromophenyl-phenylether	10	10
118-74-1	Hexachlorobenzene	10	10
87-96-5	Pentachlorophenol	50	10
85-01-8	Phenanthrene	10	10
120-12-7	Anthracene	10	10
84-74-2	Di-n-Butylphthalate	10	10
206-44-0	Fluoranthene	10	10
129-00-0	Pyrene	10	10
85-68-7	Butylbenzylphthalate	10	10
91-94-1	3,3'-Dichlorobenzidine	20	10
56-55-3	Benzo(a)Anthracene	10	10
218-01-9	Chrysene	10	10
117-81-7	bis(2-Ethylhexyl)Phthalate	10	10
117-84-0	Di-n-Octyl Phthalate	10	10
205-99-2	Benzo(b)Fluoranthene	10	10
207-08-9	Benzo(k)Fluoranthene	10	10
50-32-8	Benzo(a)Pyrene	10	10
193-39-5	Indeno(1,2,3-cd)Pyrene	10	10
53-70-3	Dibenz(a,h)Anthracene	10	10
191-24-2	Benzo(g,h,i)Perylene	10	10

(1) - Cannot be separated from Diphenylamine

0295

EPA SAMPLE NO.

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

11756.3-340-01

CN934MSD

Contract: 68-09-0035

Lab Name: CLAYTON NOVIT

SDS No.: CAR21

Case No.: 11756

SAS No.:

Lab Code: CLAYIN

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: (SEP/Cont/Sonc) SEPF

Date Analyzed: 04/19/89

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

COMPOUND

CAS NO.

0

0.050IU	alpha-BHC	319-84-6
0.050IU	beta-BHC	319-85-7
0.050IU	delta-BHC	319-86-8
0.050IU	gamma-BHC (Lindane)	58-89-9
0.050IU	Heptachlor	76-44-8
0.050IU	Aldrin	309-00-2
0.050IU	Heptachlor epoxide	1024-57-3
0.050IU	Endosulfan I	959-98-8
0.050IU	Dieldrin	60-57-1
0.10IU	4,4'-DDE	72-55-9
0.10IU	Endrin	72-20-8
0.10IU	Endosulfan II	33213-65-9
0.10IU	4,4'-DDD	72-54-8
0.10IU	Endosulfan sulfate	1031-07-8
0.10IU	4,4'-DDT	50-29-3
0.10IU	Methoxychlor	72-43-5
0.50IU	Endrin ketone	53494-70-5
0.50IU	alpha-Chlordane	5103-71-9
0.50IU	gamma-Chlordane	5103-74-2
1.0IU	Toxaphene	8001-35-2
1.0IU	Acroton-1016	12674-11-2
0.50IU	Acroton-1221	11104-28-2
0.50IU	Acroton-1232	11141-16-5
0.50IU	Acroton-1242	53469-21-9
0.50IU	Acroton-1248	12672-29-6
1.0IU	Acroton-1254	11097-69-1
1.0IU	Acroton-1260	11096-82-5

0362

FORM I PEST

1/87 Rev

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) <u>UG/L</u>	<u>Q</u>
108-95-2	Phenol	10	10
111-44-4	bis(2-Chloroethyl)Ether	10	10
95-57-8	2-Chlorophenol	10	10
541-73-1	1,3-Dichlorobenzene	10	10
106-46-7	1,4-Dichlorobenzene	10	10
100-51-6	Benzyl Alcohol	10	10
95-50-1	1,2-Dichlorobenzene	10	10
95-48-7	2-Methylphenol	10	10
39638-32-9	bis(2-Chloroisopropyl)Ether	10	10
106-44-5	4-Methylphenol	10	10
621-64-7	N-Nitroso-Di-n-Propylamine	10	10
67-72-1	Hexachloroethane	10	10
98-95-3	Nitrobenzene	10	10
78-59-1	Isophorone	10	10
88-75-5	2-Nitrophenol	10	10
105-67-9	2,4-Dimethylphenol	10	10
65-85-0	Benzoic Acid	50	10
111-91-1	bis(2-Chloroethoxy)Methane	10	10
120-83-2	2,4-Dichlorophenol	10	10
120-82-1	1,2,4-Trichlorobenzene	10	10
91-20-3	Naphthalene	10	10
106-47-8	4-Chloroaniline	10	10
87-68-3	Hexachlorobutadiene	10	10
59-50-7	4-Chloro-3-Methylphenol	10	10
91-57-6	2-Methylnaphthalene	10	10
77-47-4	Hexachlorocyclopentadiene	10	10
88-06-2	2,4,6-Trichlorophenol	10	10
95-95-4	2,4,5-Trichlorophenol	50	10
91-58-7	2-Chloronaphthalene	10	10
88-74-4	2-Nitroaniline	50	10
131-11-3	Dimethyl Phthalate	10	10
208-96-8	Acenaphthylene	10	10
606-20-2	2,6-Dinitrotoluene	10	10

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

(1) - Cannot be separated from Diphenylamine

0286

IF
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: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0287

1
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:

INORGANIC ANALYSIS DATA SHEET

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:

INORGANIC ANALYSIS DATA SHEET

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:

INORGANIC ANALYSIS DATA SHEET

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:

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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

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:

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:

INORGANIC ANALYSIS DATA SHEET

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:

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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	D	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
7440-50-9	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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KEYSTONE DC# 11866-03-05

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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
7440-38-0	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
7440-42-9	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: GRAPE

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.

MCY691

Lab Name: KEYSTONE ENVIRONMENTAL Contract: 68-WB-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
7440-50-9	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:

000003

KEYSTONE DC# 11866-03-05

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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
7440-50-9	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	254.00	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

U.S. EPA - CLP

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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	U	D	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	42300.00			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	96.40		*	P
	Cyanide	1.40	U		AS

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts: YES

Comments:
ROCKS & PGTS IN SAMPLE.

000010

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MCAF38
~~MCAF38~~ 7/5/89

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

Lab Code: CHEM

Case No.: 11756

SAS No.:

SDG No.: ^{7/5/89} ~~MCAF38~~ 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	D		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 20.20 22.00	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:

U.S. EPA - CLP

1
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.: MCAF38
MCAF38

Matrix (soil/water): WATER

Lab Sample ID: 00150-02S

Date Received: 04/13/89

Level (low/med): LOW

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	U	N	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	U		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:

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~~ ^{MACF35}

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	B		P
7440-36-0	Antimony	38.00	U		P
7440-38-2	Arsenic	2.00	U		P
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	8.70 22.00	U	ENM	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	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:

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~~ ^{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	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		PF
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:

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.: MCAF38 ^{9m} MACF38 ^{5/1}

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:

1
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.: ~~MACP38~~ ^{McAF38} _{5/31}

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
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:

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~~ ^{MACF38} _{5/31}

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
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:

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~~ ^{MCAF38} _{7/2}

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	U		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

7704 07 - 12

ITC-88-1198

2-17-51

Fig. 2742. Road west on 563.
 1st gravel pit.
 1st house (very house on 563) - W.

16/02/91

(Psychology)

Mr. Van Allen, (Corydon)
Coral Point Club near a TCE Sample # 2 has
Killer and Radioactivity of 40.2 ppb TCE. They are drinking.

Children were motivated by award pins. However, he said that

approx 1 1/2 years ago, EPA had a meeting previously

Remember some of the things which I have seen and that I would tell and write some when next in a way.

2-25-81 - Alfred and Josephine at Tony's residence to see a climacter

which is still just before picture tank. The water then goes thru a system

and when thru the carbon filter. Water was sampled at several points.

one in action and 12 machine guns. Forward to check observation log

not too much nitrogen added - a critical between C-2 and C-5 mg/L nitrogen

There had been many deaths from the disease in the
the last few months.

It said in Jan 1980 D.E.R. had a number of children in a group, some of which had passed

had made original complaint of PER. There have still a few more to go.

we appear to be taking a point - like infinitesimal time. This will also have more

The article of 1891. The author was the husband of Schulerberg's wife.

The last night the dinner is served in the Royal Palace & the night

initial DEP re: down country. He stayed on back. A lot changed with it

[Handwritten:] HALL ST [unclear] (P.O. Box 213) A OTTOWILLE, Pa. - [redacted] - [unclear]

Army had killed

274 605012

FIELD ACTION REPORT

Pg. 2

Date: _____

Case Name: Ferry Hall ComplaintMunicipality: Nockamixon 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 who had been contacted by D.E.R. was Mr. Wayne Lee Miller (West Water Street, Hellertown, Pa.)

3-11-81 Stopped at site and sampled Mrs. Cook at B 6A Rt 563 and Ray Miller 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 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. Harris phone # (owner). I called Mr. Harris and advised of results, and advised to not drink water unless boiled or carbon filtration is available. He was very upset at first and wanted to know why he wasn't told at this sooner. I advised I wasn't aware property was a rental property until today when I called Woodward. I advised Woodward had given me permission to sample.

5-3-81 - Sampled athletic house - before & after carbon filter. Filter is a dual ~~unit~~ cassette type filter just ~~outside~~ to treat 1 tap at the kitchen sink for drinking.

5-27-81 Sampled Shedd's home on Rt 563

Travis L. Hall

Telephone	<input checked="" type="checkbox"/>
Office Visit	<input type="checkbox"/>
Field Contact	<input checked="" type="checkbox"/>

E.P.S. II

Nockamixon TCE samples.

8611-35-12K

563 Larry Hall [REDACTED]

R.D. 1 Box 212

Ottsville, Pa. 18942

565 Lawrence Conly [REDACTED]

Box 213 A Rt. 563

Ottsville, Pa.

598 Cook residence [REDACTED]

B 6A Rt. 563

Ottsville

property owner is Vince Panak

Pa. box 162

Perkasie, Pa. 18944

599 Ray Miller [REDACTED]

Rt. 563

Ottsville

650 Mary Rocco [REDACTED]

Box 210 R.D. #1 Rt. 563

Ottsville

owner: Ms. Dolores Robinson

Box 3 R.D. 2

H- [REDACTED]

Upperblack Edely, Pa. W [REDACTED]

651 J.F. McLaughlin [REDACTED]

R.D. #1 Box 219 Rt. 563

Ottsville

652 James Atkins H- [REDACTED]

W- [REDACTED]

R.D. 1 Box 223 Rt. 563

Ottsville

653 Wm. Stever [REDACTED]

R.D. #1 Box 222 Rt. 563

Ottsville

654 W.P. Kellam [REDACTED]

R.D. #1 Box 221 Rt. 563

Ottsville, Pa.

717 Mr. Andy Woodward

Work-

Rt. 563

Ortsville, Pa. 18942

- owner of this property is Mr. Robert Spore

1008 Willow Penn Drive

Southampton, Pa. 18966

121029 Mrs. Pauline Schulberger

Rt. #1 Rt. 563

P.O. Box 218

Ortsville, Pa. 18942

654
653

652

651

Ref 563
→ 76
313

left card
Cook
Paulene
Schubert
same well

651

Trader
(left card)

left card

Conley

L. Hall

Room Storage Area

650

76412

650

same well

R. Miller

SHIPMENT		CASE		FACILITY		COLL NUMBER	
Shulberger Residence						121029	
CITY		MUNICIPALITY		PROGRAM		COLL NAME	
Bucks		Mackamixon Twp.		WS		D. Noll	
TYPE TR		STD ANALYSIS					
0		10					
CARD 131		ID CODE (ALL CARDS) 4 16		LATITUDE 4-10		LONGITUDE 11-18	
DATE 1924		TIME 25 28		KIND 29			
1		2		082781		12204	
CITY		MUN		EST		CASE	
Not		Not		WAMIS			
SSQ 30-34		AGENCY 35-37		SAMPLE NUMBER 38-43		STREAM NAME 44-57	
28		4012		1029			
LABORATORY TO:						ADDITIONAL LAB ANALYSES	
LAB DESCRIPTION WHERE SAMPLE TAKEN						Outside Hesse Bibb	
CUSTODY LOG						Rte 563	
Shipped						TCE/PCE	
Seal No.							
Sealed by:							
Seal Condition:							
QUALITATIVE REPORT							

QUANTITATIVE RESULTS

[illegible]

ANALYST

SIGNATURE

DATE _____

CENTRAL OFFICE

Lab Number 01697

REV 9-78

100

W L

1 2

STREAM/RANDCM SAMPLE

DEPARTMENT OF ENVIRONMENTAL RESOURCES

BUREAU OF WATER QUALITY MANAGEMENT

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

Date Received 3/25/91

ESTABLISHMENT Atkins Residence		CASE		FACILITY Well		COLL. NUMBER 652	
COUNTY Bucks		MUNICIPALITY Nockamixon Twp W.S.		PROGRAM D.N.O.I.		TYPE TR 0	
STO ANALYSIS 10		ID CODE (ALL CARDS) 4-18		LATITUDE 4-10		LONGITUDE 11-18	
DATE 19 24		TIME 25-28		KIND 29			
CARD 131		CITY NORTH FOR WALKERS		M 0		Y 032491	
USGS-Q 30-34		AGENCY 35-37 B C H		SAMPLE NUMBER 38-43 01211652		STREAM NAME 44-57	
RELATIVE POINT 58							
TRIBUTARY TO:						ADDITIONAL LAB ANALYSES	
FULL DESCRIPTION WHERE SAMPLE TAKEN Atkins Kitchen sink.						TCE	
CUSTODY LOG						PCE	
How Shipped						R.D 1 Rt. 563 Pottsville, Pa.	
Date						111 TCE	
Legal Seal No.							
Received by:							
Legal Seal Conditions							
QUALITATIVE REPORT							

QUANTITATIVE RESULTS

[illegible]**ANALYST**

J. H. Rualpison
SIGNATURE

DATE 3/2/51

CENTRAL OFFICE

1 NETWORK SAMPLE		ESTABLISHMENT		CASE		FACILITY		15901		DATE RECEIVED	
Jim Atkins residence						well				6-9-81	
COUNTY		MUNICIPALITY		PROGRAM		COLL NAME		TYPE TR.		COLL NUMBER	
Bucks		Northampton Twp.		W. R.		D. No 11		5		830	
CARD (3)		ID CODE (ALL CARDS) 4-18		LATITUDE 4-10		LONGITUDE 11-18		DATE 19-24		TIME 25-28	
1 2		Cntry Mun T Est Case Pac						M D Y		HR Min	
								06 03 81		13 36	
USGS-Q 30-34		AGENCY 35-37		Sample No. 38-43		STREAM NAME 44-57		REL Pt 58		Type 59-60	
		2 8 4		0121 830				04		03 01	
Composite Samples:		P/U 65		T/S 66		Ala 67-68		Cond. 80		Flow:	
										STATION DESCRIPTION:	
										Drinking Tap - Kitchen sink	
Cl. Tot. mg/l (50060)										Total Coliforms (Per 100 ml) (3150) 1 0 0 0 0	
Cl. Free mg/l (50064)										Fecal Coliforms (Per 100 ml) (3161)	
COMMENTS										Total Fecal Strep (Per 100 ml) (3167)	
										Total Plate Count (Per ml) (31751)	
CENTRAL OFFICE		ANALYZED BY		jac		DATE		6/5		<input type="checkbox"/> SAMPLE Exceeds Time Limits of Standard Methods for Valid Analysis	


QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS
			(SHOW DECIMAL POINTS ON LINES)
III-TCE	ug/l		0003.6
TCE	"		0096.-
PCE	"		0017.-

ANALYST J. H. Malpass SIGNATURE

DATE 6/5/81

CENTRAL OFFICE

ESTABLISHMENT Mans Rocco Rocco Residence				CASE				FACILITY Well				COLL NUMBER 121650									
COUNTY Bucks				MUNICIPALITY Newkirk Twp.				PROGRAM W.R.				COLL NAME D. Noil				TYPE TR D		STD ANALYS 31D			
CARD 131		10 CODE (ALL CARDS) 4-16						LATITUDE 4-10				LONGITUDE 11-18				DATE 19-24		TIME 25-28		KINC 29	
		City Mun T Est Cont Fic NOT FOR WAINIS						0				0324 #1				1310		6			
USGS-Q 30-34				AGENCY 35-37 BCH				SAMPLE NUMBER 38-43 0121650				STREAM NAME 44-57				RELATIVE POINT 58					

TRIBUTARY TO: FULL DESCRIPTION WHERE SAMPLE TAKEN CUSTODY LOG How Shipped Date Legal Seal No. Received by: Legal Seal Conditions		ADDITIONAL LAB ANALYSES TCE PCE 111 TCE
Rocco R.D. 1 RT. 563 Pittsville Pa. Porch Tap		QUALITATIVE REPORT

III - TCE + PCE - None detected

QUANTITATIVE RESULTS

[illegible]

ANALYST

J H. Maffione
SIGNATURE

BATE

2. 131

CENTRAL OFFICE

W R

STREAM/RANDOM SAMPLE

Date Received 3/25/81

1	2	NETWORK SAMPLE
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1	5	1
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1	98	1
1	99	1
1	100	1

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT			CASE			FACILITY			COLL NUMBER					
W.P. Kellam residence						Well			654					
COUNTY		MUNICIPALITY		PROGRAM		COLL NAME			TYPE TR		STO ANALYS			
Bucks		Nockamixon Twp		W.R. D. Noll					0		10			
CARD 131	ID CODE (ALL CARDS) 4-16				LATITUDE 4 10		LONGITUDE 11 18		DATE 19 24		TIME 25 28		KIND 29	
1	Only	Mun	T	Est	Case	File			M	D	Y	Hr	Min	
2	NOT FOR WAMIS						0		0324	21	1425	6		
USGS-Q 30-34		AGENCY 35-37		SAMPLE NUMBER 38-43		STREAM NAME 44-57						RELATIVE POINT 58		
		BCH		0121654										

TRIBUTARY TO:		ADDITIONAL LAB ANALYSES
FULL DESCRIPTION WHERE SAMPLE TAKEN		TCE
CUSTODY LOG		PCE
How Shipped	Date	111 TCE
Legal Seal No.	outside Tap	
Received by:	QUALITATIVE REPORT	
Legal Seal Conditions		

QUANTITATIVE RESULTS

[illegible]

ANALYST

J. H. Malgouyres
SIGNATURE

DATE _____

3/31/81

Lab Number 114508

☐ ☒ STREAM/RANDOM SAMPLE

DEPARTMENT OF ENVIRONMENTAL RESOURCES

Date Received 3/25/91

BUREAU OF WATER QUALITY MANAGEMENT

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT										CASE										FACILITY										COLL NUMBER																																																																																																			
Wm. Stever residence																				Well										653																																																																																																			
COUNTY										MUNICIPALITY										PROGRAM										COLL NAME										TYPE TR										STD ANALYSIS																																																																															
Bucks										Hockamixon Twp.										W. Q.										D. ND 11										C										10																																																																															
CARD 121										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										CODE										FAC										M										D										Y										Hr										Min																			
NORTH FUR WAMISI																														0																				0324										11										14										20										6																																							
USGS-Q 30-34										AGENCY 35-37										SAMPLE NUMBER 38-43										STREAM NAME 44-57										RELATIVE POINT 58																																																																																									
										BCH										0121										653																																																																																																			
RIBUTARY TO:																														ADDITIONAL LAB ANALYSES																																																																																																			
FULL DESCRIPTION WHERE SAMPLE TAKEN																														TCE																																																																																																			
CUSTODY LOG																														PCE																																																																																																			
How Shipped																														111 TCE																																																																																																			
Date																																																																																																																																	
Legal Seal No.																																																																																																																																	
Received by:																																																																																																																																	
Legal Seal Conditions:																																																																																																																																	
QUALITATIVE REPORT																																																																																																																																	

QUANTITATIVE RESULTS

[illegible]

ANALYST

J. H. MacGee
SIGNATURE

DATE _____

3/31/31

CENTRAL OFFICE

Date Received 3/25/81

W	R	STREAM/RANDOM SAMPLE
1	2	NETWORK SAMPLE

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT J.F. McLaughlin residence										FACILITY Well										COLL. NUMBER 651																																																	
COUNTY Bucks										MUNICIPALITY Nockamixon Twp.										PROGRAM W. Q.										COLL. NAME D. Noil										TYPE TR D										STD. ANALYSIS 1D																			
CARD 131										ID CODE (ALL CARDS) 4-18										LATITUDE 4 10										LONGITUDE 11 18										DATE 19 24										TIME 25 28										KINC 29									
<div>1</div> <div>2</div>										Cnty Mun T Est Code Psc NO OT FOR WILMIS										<div>0</div>										<div>0324</div>										<div>1352</div>										<div>6</div>																			
USGS-Q 30-34										AGENCY 35-37 BCHDI										SAMPLE NUMBER 38-43 21651										STREAM NAME 44-57										RELATIVE POINT 58																													

TRIBUTARY TO:

ADDITIONAL LAB ANALYSES

FULL DESCRIPTION WHERE SAMPLE TAKEN

- CUSTODY LOG

How Shipped

Data

Legal Seal No.

Received by:

Legal Seal Conditions

QUALITATIVE REPORT

QUANTITATIVE RESULTS

[illegible]**ANALYST**

SIGNATURE

DATE _____

CENTRAL OFFICE

DOI: 10.1002/for

W R STREAM/RANDOM SAMPLE

DEPARTMENT OF ENVIRONMENTAL RESOURCES

Date Received 3/12/81

BUREAU OF WATER QUALITY MANAGEMENT

1	2	NETWORK SAMPLE
1	1	1
2	2	2
3	3	3
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100	100	100

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT Cook residence		CASE		FACILITY		COLL NUMBER 598	
COUNTY Bucks		MUNICIPALITY Hockamixon Twp		PROGRAM I.W.		COLL NAME D. Nell	
TYPE TR 0		STD ANALYS 10					
CARD 1:31		ID CODE (ALL CARDS) 4-16		LATITUDE 4 10		LONGITUDE 11 16	
DATE 19 24		TIME 25 28		KIND 29			
City Mun T Est Case Fac		M D Y		Hr Min			
NOT FOR WA M I S		03 11 21		1 30 56			
USGS Q 10-34		AGENCY 35-37		SAMPLE NUMBER 38-43		STREAM NAME 44-57	
B C H		01 21		5 9 8			
TRIBUTARY TO:						ADDITIONAL LAB ANALYSES	
FULL DESCRIPTION WHERE SAMPLE TAKEN						Bathroom sink B6A RT. 563 TCE	
CUSTODY LOG						PCE	
How Shipped						111 TCE	
Legal Seal No.							
Received by:							
Legal Seal Conditions							
QUALITATIVE REPORT							

QUANTITATIVE RESULTS

[illegible]

ANALYST

ANALYST J. H. Malgoures SIGNATURE

DATE _____

3/2 3/31

CENTRAL OFFICE

Lab Number 112729

DEPARTMENT OF ENVIRONMENTAL RESOURCES

Date Received 2/26/81

BUREAU OF WATER QUALITY MANAGEMENT

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT Lawrence Comly residence										FACILITY well										COLL NUMBER 565																																																	
MUNICIPALITY Bucks										PROGRAM Nockamixon Twp W.R.										COLL NAME R. Noll										TYPE TR 0										STD ANALYSIS 10																													
CARD 121 1 2										ID CODE (ALL CARDS) 4-18 Only Mon T Est Case Pac										LATITUDE 4-10										LONGITUDE 11-18										DATE 19-24 M O Y										TIME 25-28 Hr Min										KIND 29									
USGS-Q 30-34										AGENCY 35-37 B C H										SAMPLE NUMBER 38-43 0121										STREAM NAME 44-57 565										RELATIVE POINT 58																													
RIBUTARY TO:																														ADDITIONAL LAB ANALYSES																																							
FULL DESCRIPTION WHERE SAMPLE TAKEN Outside Tap at Comly well																														TCE																																							
CUSTODY LOG How Shipped Date																														PCE																																							
Legal Seal No.																														111 TCE																																							
Received by:																																																																					
Legal Seal Conditions:																																																																					
QUALITATIVE REPORT																																																																					

111-TCF & PCE - none detected

QUANTITATIVE RESULTS

[illegible]**ANALYST**

SIGNATURE

DATE _____

CENTRAL OFFICE

W

R

STREAM/RANDOM SAMPLE

DEPARTMENT OF ENVIRONMENTAL RESOURCES

Date Received

4/10/81

BUREAU OF WATER QUALITY MANAGEMENT

1 2 NETWORK SAMPLE

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

ESTABLISHMENT Andy Woodward residence		CASE		FACILITY Well		COLL NUMBER 717	
COUNTY Bucks	MUNICIPALITY Neckamixon Twp	PROGRAM W. Q.	COLL NAME D. No 11		TYPE TR D	STD ANALYSIS 10	
CARD 12 1	ID CODE (ALL CARDS) 4-16 NOT FOR WATIS		LATITUDE 4-10 0		LONGITUDE 11-18 0409311		DATE 19 24 1 2 4 0
USGS-Q 10-34 1	AGENCY 35-37 B C H 01	SAMPLE NUMBER 38-43 21 717	STREAM NAME 44-57		RELATIVE POINT 58		
TRIBUTARY TO:						ADDITIONAL LAB ANALYSES	
FULL DESCRIPTION WHERE SAMPLE TAKEN OUTside Tap.						RT. 563	
CUSTODY LOG						OTTsville, Pa.	
How Shipped						12942	
Legal Seal No.						TCE	
Received by:						PCE	
Legal Seal Conditions:						111 TCE	

QUALITATIVE REPORT

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULT (SHOW DECIMAL POINTS ON LINES)
111-TCE	ug/l		0005.18
TCE -	"		0140.1
PCE	"		0001.18

ANALYST

J. H. Maljune
SIGNATURE

DATE

4/17/81

CENTRAL OFFICE

3/12/81

WATER OR WASTE QUALITY REPORT - SPECIAL ANALYSES

COLL NUMBER

TYPE TR	STD ANALYSIS
0	10

TYPE TA

0

TIME 25.2A

1 RELATIVE POINT 52

ADDITIONAL LAB ANALYSE:

TCE

PCE

RT. 563 - (Gravel La. near Hall)

RT. 563 - (Gravel La. near Hall)

QUALITATIVE REPORT

Legal Seal Condition:

[illegible]

DATE 2/23/51

CENTRAL OFFICE

ESTABLISHMENT Larry Hall residence										CASE										FACILITY Well										COLL NUMBER 564																																																																																																			
BUCKS										MUNICIPALITY Nockamixon Twp. W.R.										PROGRAM D.M.O.I.										COLL NAME										TYPE TR 4+7										STD ANALYSIS 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 NOT FOR WATERS										MUN 0										T 0										EST 0										CAGE 0										PAC 0										M 0										D 0										Y 0										Hr 0										Min 0										3									
USGS-Q 30-34										AGENCY 35-37										SAMPLE NUMBER 38-43										STREAM NAME 44-57										RELATIVE POINT 58																																																																																									
B										C										H										0										1										2										5										6										4																																																	
TRIBUTARY TO:																														ADDITIONAL LAB ANALYSES																																																																																																			
FULL DESCRIPTION WHERE SAMPLE TAKEN																														Finished water after carbon filter																																																																																																			
CUSTODY LOG																														from kitchen tap.																																																																																																			
How Shipped																														Date																																																																																																			
Legal Seal No.																																																																																																																																	
Received by:																																																																																																																																	
Legal Seal Conditions																																																																																																																																	
QUALITATIVE REPORT																																																																																																																																	

III - TCE & TCE + PCE - none detected

QUANTITATIVE RESULTS

[illegible]

ANALYST J. H. Malone
SIGNATURE

DATE 2/20/51

CENTRAL OFFICE

CENTRAL OFFICE

APPENDIX D

HOME WELL SURVEY

#w-116

Home Owner's Name: CARRY C. HALL

Date: 4/12/89

Address: RD #1 BOX 212
OTTISVILLE, PA
18942

Home Phone: [REDACTED]

Work Phone: [REDACTED]

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 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

HOME WELL SURVEY

HW 1, 6

Home Owner: CARY HALL

Date: 4/12/85

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 - DOMESAC + HEATING

d. Storage tank used: X Yes _____ No

Type (material) ZOL 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): _____

HOME WELL SURVEY

HW-11

Home Owner Name: LARRY HALL

Date: 4-12-89

b. Please describe any type of water treatment you are currently using (check those which apply):

- ☒ Filtration _____ Other (explain) _____
- Type: CARBON
- ☒ Water Softeners _____
- Indicate Brand: _____

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: ☒ Drinking ☒ Other: ALL DOMESTIC

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 2100'

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 116

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.

HOME WELL SURVEY

HW-2

C

Home Owner: Miller

Date: _____

Address: RD 1 BOX 213 Route 563

Home Phone: [REDACTED]

01161140

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): 20-20'

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) blasting Capacity 30 gal
Copper

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 Name: Miller

Date: _____

- b. Please describe any type of water treatment you are currently using (check those which apply):

☐ Filtration

Type: _____

☐ Other (explain)☒ Water Softeners

Indicate Brand: _____

9. Please indicate any testing that has been done on your water:

Date of testing: 1981Name of individual(s) responsible for testing: BLH/D

10. Well Use: ☒ Drinking ☐ Other: _____

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 _____

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.

☒

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 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.

HOME WELL SURVEY

Home Owner:

ROBERT POTTER

Date:

4/12/89

Address:

RD #2 BOX 66A
PARK DRIVE
KINTAUNSVILLE, ALA
35930

Home Phone:

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):

15000S COUNTRY WALK

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

☒ Iron

_____ PVC

_____ Galvanized

_____ Terra Cotta

_____ Other - Please

Specify (if known)

b. Length (if known):

HOME WELL SURVEY

Hw-3

Home Owner's Name: 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

☒ 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: _____

_____ 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. ☒ Storage tank used: ☒ Yes

☐ No

Type (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): _____

HOME WELL SURVEY

HW-3

Home Owner's Name: Robert PillerDate: 4-2-89

- b. Please describe any type of water treatment you are currently using (check those which apply):

☐ Filtration☐ Other (explain)☒ Type: _____☒ Water SoftenersIndicate Brand: SEARS

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:

☒ Drinking☒ Other: DOMESTIC

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 > 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.

☒

Yes, I will allow my well to be sampled.

☐

No, I will not allow my well to be sampled.

HOME WELL SURVEY

HW-3

HW-4

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

HOME WELL SURVEY

Home Owner

ARRIGO, SAMUEL

Date:

4/12/59

Address:

RD 1 BOX 204

POTTSVILLE, PA 15942

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 ? SO

Guelbertown, 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):

Guelbertown, PA

2. Please provide the following measurements of your well:

a. Total depth:

435'

b. Well diameter:

6"

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):

25-30'

HOME WELL SURVEY

Hw-4

Home Owner: Samuel Arreaga

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
redrilled to 340-400'

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): _____

HOME WELL SURVEY

HW-4

Home Owner Name:

Samuel Arrigo

Date:

4/12/89

- b. Please describe any type of water treatment you are currently using (check those which apply):

☐ Filtration☐ Other (explain)

Type: _____

☒ Water Softeners

Indicate Brand: _____

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 160'

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.

☒

Yes, I will allow my well to be sampled.

☐

No, I will not allow my well to be sampled.

HOME WELL SURVEY

HW-4

Home Owner Name:

Samuel Arroyo

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.

IT septic

well



KT. 412

HOME WELL SURVEY

HW-5

Name: Kim Lindsey

Date: 4-12-89

Address: Box 216
Offsville PA
18942

Home Phone: [REDACTED]

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): _____

HOME WELL SURVEY

HW-5

Home Owner: Kim LindleyDate: 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: _____

☒ 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. Storage tank used: ☒ 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 ☒ No

If yes, date last added: _____ Approximate amount added _____

Compound (brand name): _____

HOME WELL SURVEY

Hw-5

Home Owner: Kim LindleyDate: 4-12-85

- b. Please describe any type of water treatment you are currently using (check those which apply):

☐ Filtrationnone☐ Other (explain)

Type: _____

☐ Water Softeners

Indicate Brand: _____

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: ☒ Drinking ☐ Other: _____
all domestic purposes

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 _____

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.



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.