COOPER ENVIRONMENTAL
ENGINEERS • GEOLOGISTS • SCIENTISTS

July 8, 2002

Ms. Amber Lindon
NCDENR, UST Section
919 North Main Street
Mooresville, North Carolina 28115

RECEIVED
JUL 0 9 2002
NC DEPT. OF ENVIRONMENT
AND NATURAL RESOURCES
MOORESVILLE REGIONAL OFFICE

Re: Phase I Limited Site Assessment
Former Copes Vulcan Facility
601 West Summit Avenue
Charlotte, North Carolina
CEI Project No. 22135

Dear Ms. Lindon:

On behalf of The Kelly-Buck Company, Cooper Environmental, Inc. (CEI) is submitting the Phase I Limited Site Assessment (LSA) for the former Copes Vulcan facility in Charlotte, North Carolina. CEI respectfully requests a rapid review this report due to a pending real estate transaction involving this property. Your help will greatly be appreciated.

If you have any additional questions, please contact me at (704) 845-2000.

Sincerely,

COOPER ENVIRONMENTAL, INC.

Douglas Pierotti
Project Manager

F:\Geology\Projects\22135-Copes-Vulcan\NCDENR Cover Letter.doc

cc: Mike Lyden, P.E., The Kelly-Buck Company

2300 SARDIS ROAD NORTH, SUITE Q, CHARLOTTE, NORTH CAROLINA 28227
(704) 845-2000 • FAX (704) 841-8901 • www.coopereng.com

LIMITED SITE ASSESSMENT REPORT

FORMER COPES-VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA

RECEIVED
JUL 0 9 2002
NC DEPT. OF ENVIRONMENT
AND NATURAL RESOURCES
MOORESVILLE REGIONAL OFFICE

JULY 2002

CEI PROJECT NO. 22135
NCDENR INCIDENT NO. 9109

PREPARED FOR
THE KELLY-BUCK COMPANY
2130 SUPERIOR AVENUE, SUITE 3A
CLEVELAND, OHIO 44114

PREPARED BY
COOPER ENVIRONMENTAL, INC.
2300 SARDIS ROAD NORTH, SUITE Q
CHARLOTTE, NORTH CAROLINA 28227

SUMMARY INFORMATION

FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
MECKLENBURG COUNTY, CHARLOTTE, NORTH CAROLINA
CEI PROJECT NO. 22135
NCDENR INCIDENT NO. 9109

DATE OF REPORT:

JULY 2002

CURRENT PROPERTY OWNER, ADDRESS, AND TELEPHONE NUMBER:

ELECTROLUX NORTH AMERICA (ENA)
18013 CLEVELAND PARKWAY, SUITE 100
CLEVELAND, OHIO 44135-0920
ATTN. DOUG MIX
(216) 898-2373

RELEASE DISCOVERY DATE:

1992

SIZE, SOURCE AND CONTENTS OF RELEASE:

500-GALLON VIRGIN CUTTING OIL UST

LATITUDE/LONGITUDE:

NORTH 35° 13' 16"/WEST 80° 51' 53"

THIS REPORT WAS PREPARED BY COOPER ENVIRONMENTAL, INC.

NORTH CAROLINA LICENSED SEAL 1755 GEOLOGIST DOUGLAS LEE PIEROTTI 7/8/02

DOUGLAS L. PIEROTTI, P.G.
PROJECT MANAGER
NORTH CAROLINA LICENSED GEOLOGIST NO. 1755

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FIGURES

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Figure 2: Site Map

Figure 3: Tax Map

Figure 4: Phase I LSA Sampling Location Map

APPENDICES

Appendix A: LSA Risk Classification and Land Use Form

Appendix B: Soil Boring Log

Appendix C: Well Construction Record

Appendix D: Pace Analytical Laboratory Report

1.0 SITE HISTORY

Cooper Environmental, Inc. (CEI) was contracted by The Kelly-Buck Company (Kelly-Buck) to conduct a Phase I Limited Site Assessment (LSA) associated with a prior release of product from a virgin cutting oil Underground Storage Tank (UST) used at the facility. The subject site is located at 601 West Summit Avenue in Charlotte, North Carolina. See Figure 1 for the Topographic Location Map.

CEI understands that two USTs were removed from the subject site in 1992. One of the USTs, a 500-gallon virgin (new) cutting oil UST, was reported to have experienced a release. CEI understands that a small quantity of contaminated soil was removed from the cutting oil UST excavation at the time of closure. Soil sampling in and around the UST excavation indicated the presence of petroleum hydrocarbons as oil and grease by EPA Method 9071 ranging from 64 to 490 milligrams per kilogram (mg/kg). The former UST location is at the south end of the manufacturing building between two former small storage buildings. See Figure 2 for a Site Map.

CEI understands the LUST incident remains an open issue with the North Carolina Department of Environment and Natural Resources (NCDENR), UST Section. The NCDENR has also indicated that a Phase I LSA would be appropriate for the site. The following summarizes information obtained to complete the Phase I LSA on behalf of Kelly-Buck.

2.0 RISK CHARACTERIZATION

CEI gathered information concerning the risk and land use required to characterize the site. CEI reconnoitered the area within 1,500 feet of the site and inquired about water supply wells, surface waters, and other pertinent features during this review. CEI also reviewed tax records and zoning status files for the subject site and surrounding properties.

The subject parcel was previously known as the Copes Vulcan manufacturing facility, which was a metal fabrication facility. The current site consists of a semi-vacant manufacturing building on approximately 17 acres. Carocraft, Inc., a wood working and custom casework facility, occupies a portion the building. Charlotte Pipe

and Foundry is located to the east and light industrial businesses are located to the north. Piedmont Natural Gas has a booster station to the northwest and residential properties are located to the south.

CEI completed the "Limited Site Assessment Risk Classification and Land Use Form" which is included in the April 2001 NCDENR guidelines. The completed form may be found in Appendix A.

3.0 RECEPTOR INFORMATION

3.1 Water Supply Wells

CEI conducted a water supply well search of the area within a 1,500-foot radius of the subject site during the Phase I LSA activities. The visual reconnaissance of the area did not indicate active water supply wells within the search area. In addition, CEI sent certified letters to property owners located within 500 feet of the subject site. The questionnaires were sent to inquire if a water supply well was present on their properties. The results of the survey did not indicate a water supply well within the search area.

3.2 Public Water Supplies

CEI did a visual search and inquired about public water supplies within 1,500 feet of the subject site. There are no public water supply sources areas within 1,500 feet of the site. CEI also observed water meters, water lines, and sewer lines to all residences and businesses during the reconnaissance. The subject site and surrounding properties are connected or have access to municipal water.

3.3 Surface Water

CEI did not identify surface water bodies within 1,000 feet of the site. Irwin Creek is located approximately 1,500 feet west of the release. Irwin Creek has a surface water classification of "C". Irwin Creek is located beyond the radius of concern and the ground water chemical concentrations detected during the LSA do not exceed

the class "C" surface water standards by a factor of ten. The surface water body is depicted on the USGS, 7½-minute topographic map. (See Figure 1)

3.4 Wellhead Protection Areas

There are no wellhead protections areas located within the area of concern.

3.5 Deep Aquifers in the Coastal Plain Physiographic Area

The site is not located within the Coastal Plain Physiographic area.

3.6 Subsurface Structures

Buried water and sewer utilities are located along Summit Avenue. The building at the site consists of a footing/slab construction. Asphalt and concrete cover the former UST basin which should eliminate vapors that could cause a threat to human health or the environment.

3.7 Land Use

The land use for the subject site is warehouse/industrial and is listed as light industrial. The zoning review indicates that the subject site is zoned as light industrial (I-1), general industrial (I-2) and office (O-2). The properties to the north, northwest, and east are zoned as I-2. The properties to the west and south are zoned as residential (R-5 or R-8). Current and projected future use of the subject site and the immediate surrounding properties should remain as light industrial with residential parcels to the south. The site is restricted to facility workers and is surrounded by a chain link fence. The nearest residence is approximately 200 feet south of the source area.

3.8 Property Owners and Occupants

CEI obtained names and addresses of property owners contiguous to the subject site through the Mecklenburg County Tax GIS System. Please refer to Table 1 for the adjacent property ownership and Figure 3 for a tax map.

4.0 SITE GEOLOGY AND HYDROGEOLOGY

The subject property is situated within the Charlotte Belt of the Piedmont Physiographic province. The North Carolina Geologic Map dated 1985 indicates the subject site is underlain by bedrock consisting of intrusive granitic rock of Devonian age. The overburden soils consist of unconsolidated regolith as brown to black clay and weathered saprolite, which grade in depth to yellowish-tan saprolitic sand.

The site lies within the Piedmont-Blue Ridge Ground Water Region. The water bearing system consists of fractured crystalline and metamorphic rocks overlain by a veneer of regolith typically ranging in thickness from 10 to 20 meters. Water is usually present in pore space in the regolith and in bedrock fractures. The regolith is typically low yielding and is commonly saprolitic in origin. Intercalated layers of highly weathered bedrock also exist at intermittent intervals in the regolith. At this site, competent material resembling weathered bedrock was encountered at approximately 18 feet below grade level (BGL).

5.0 PHASE I SAMPLING

On May 20, 2002, Subsurface Environmental Investigations (SEI) advanced one soil boring at the former cutting oil UST basin at the subject site. See Figure 4 for the Phase I LSA boring location. SEI used a mobile track-mounted Geoprobe unit to advance a continuous sampling core to competent bedrock. CEI supervised the drilling and sampling activities. The Geoprobe experienced refusal at 18 feet BGL. Refer to Appendix B for the soil boring log description.

Soil sample SB-1 (5') was collected at 5 feet BGL. The soil sample was submitted to Pace Analytical Services (Pace) for laboratory analysis of volatile and

semi-volatile organics in accordance with EPA Method 8260 and 8270. In addition, the soil sample was analyzed for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) in accordance with the Massachusetts Department of Environmental Protection (MADEP) methodologies.

Upon completion of drilling, monitoring well MW-1 was placed into the soil boring. Monitoring well MW-1 was constructed of one-inch polyvinyl chloride (PVC) screen and riser pipe. The monitoring well was screened from 8 to 18 feet BGL with 0.010-inch slotted screen. A one-inch PVC riser pipe was attached to the well screen and extended to the land surface. A sand pack was placed from 6 to 18 feet BGL with a two-foot overlying bentonite seal. The well was completed at land surface with a steel manhole. The soil cuttings generated during the installation of the monitoring well were spread in a grassy area near the boring. Appendix C contains a copy of the NCDENR well construction record.

CEI measured the static water level in MW-1 at 10.30 feet BGL on May 20, 2002. SEI purged the ground water with a peristaltic pump. Upon clearing, a representative ground water sample was collected from MW-1. The ground water sample was submitted to Pace for laboratory analyses for EPH by the MADEP method and semi-volatile organic compounds by EPA Method 625 including the ten highest tentatively identified compounds (TICs). In addition, Pace analyzed the ground water sample for volatile organic compounds by EPA Methods 601/602 and VPH in accordance with the MADEP methodology.

6.0 SAMPLING RESULTS

The Pace analytical report indicated that naphthalene and m&p-xylene were detected in soil sample SB-1 (5') at concentrations of 0. 011 mg/kg and 0.012 mg/kg, respectively. These concentrations are below the most restrictive soil-to-groundwater maximum soil contaminant concentrations (MSCCs) for both volatile and semi-volatile compounds. The Phase I LSA soil sampling results are summarized in Tables 2 and 3. The soil laboratory report is included is Appendix D.

The Pace analytical report indicated that ethylbenzene, m&p-xylene, o-xylene and naphthalene were detected in the ground water sample. These reported concentrations are below each respective North Carolina Administrative Code (NCAC), subchapter 2L reporting standard. The Pace report indicated EPH and VPH concentrations in each carbon fraction in the ground water sample. The combined EPH and VPH in the C9-C18 aliphatic fraction and C9-C22 aromatic fraction indicate concentrations of 4,540 micrograms per liter (μg/l) and 990 μg/l, respectively. These concentrations exceed the NCAC interim 2L standards, however are less than 10 times the interim standards. The semi-volatile scan also identified 20 TICs in the ground water sample. The ground water analytical results for the sample collected during the Phase I LSA are summarized in Tables 4 and 5. The complete ground water laboratory report is attached as Appendix D.

7.0 CONCLUSIONS AND RECOMMENDATIONS

A 500-gallon virgin cutting oil UST and a small quantity of impacted soil were excavated at the former Copes Vulcan facility in 1992. A Phase I LSA was completed on May 20, 2002 at the former UST location. Laboratory samples collected and analyzed during the Phase I LSA do not indicate petroleum impact to soil in excess of the most restrictive soil-to-ground water MSCCs. In addition, volatile and semi-volatile ground water concentrations do not exceed the NCAC 2L standards. However, the concentrations for the C9-C18 aliphatics and C9-C22 aromatic fractions exceed the NCAC interim 2L standards.

There are no known or reported water supply wells located within a 1,500-foot radius of the subject site. There are no surface water bodies within 1,000 feet of the site. In addition, the ground water chemical concentrations detected from within the former UST basin do not exceed the class "C" surface water standards. The subject site and surrounding properties are predominantly light industrial. Residential properties are located up gradient and approximately 200 feet south of the release. The subject site and surrounding properties are connected to municipal water.

CEI recommends that the subject site be classified as low risk with a commercial land use classification. CEI recommends the NCDENR issue a "No

Further Action" letter for the former UST system on the basis of very low risk to human health and the environment.

8.0 REMARKS

The analyses contained in this report represents CEI's professional opinions and are based upon the finding of its investigation. These opinions were developed in accordance with currently accepted hydrogeologic and engineering practices at this time and location and no warranties or guarantees are intended or implied. Many of the opinions in this report are based upon the work and statements of others, including but not limited to laboratory reports. CEI assumes this work and these statements are accurate.

9.0 REFERENCES

Brown, P.M., Chief Compiler, 1985, Geologic Map of North Carolina, North Carolina Geologic Survey, Raleigh, North Carolina, scale 1:500,000.

Mecklenburg County, North Carolina GIS Real Estate System, http://www.maps.co.mecklenburg.nc.us.

North Carolina Administrative Code, Title 15A, Subchapter 2L. Sections .0106 to .0115.

State of North Carolina Department of Environment and Natural Resources, Division of Waste Management, UST Section, Guidelines for Assessment and Corrective Action, April 2001.

F:\Geology\Projects\22135-Copes-Vulcan\Copes-Vulcan-LSA.doc

TABLES

TABLE 1
ADJACENT PROPERTY OWNERSHIP INFORMATION
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA

CEI PROJECT NO. 22135

ADDRESS OF PROPERTY (COMMENT)	*OWNER OF RECORD*	*ADDRESS OF OWNER*	*ZONING*	*COMMENTS*
601 WEST SUMMIT AVE.	ELCTROLUX NORTH AMERICA (FORMERLY WHITE CONSOLIDATED)	18013 CLEVELAND PARKWAY, SUITE 100 PO BOX 35920 CLEVELAND, OHIO 44135-0920	I-1, I-2 & O-2	SUBJECT PARCEL (FORMER COPES VULCAN FACILITY)
600-1000 SUMMIT AVE.	CHARLOTTE PIPE & FOUNDRY CO.	PO BOX 35430 CHARLOTTE, NC 28235	I-2	ADJACENT PROPERTY LOCATED TO THE EAST. PARCEL ID # 07326203
1555 S. CLARKSON ST.	SPEAR PROPERTIES LIMITED	PO BOX 35623 CHARLOTTE, NC 28235	I-2	ADJACENT PROPERTIES LOCATED TO THE NORTH. PARCEL ID # 11910323 & 11910320
1157 S. CLARKSON ST.	SINYARD, ROBERT R.	PO BOX 668165 CHARLOTTE, NC 28266	I-2	ADJACENT PROPERTY LOCATED TO THE NORTHWEST. PARCEL ID # 11910322
SPRUCE STREET	MECKLENBURG COUNTY	600 E. 4TH ST. CHARLOTTE, NC 28202-2816	R-8	ADJACENT PROPERTY LOCATED TO THE WEST. PARCEL ID # 11911702
SPRUCE STREET	PIEDMONT NATURAL GAS COMPANY	PO BOX 33068 CHARLOTTE, NC 28233	I-1	PROPERTY LOCATED TO THE WEST. PARCEL ID # 11910319
1601 MERRIMAN AVE.	MARY TURNER	1601 MERRIMAN AVE. CHARLOTTE, NC 28203	R-8	PROPERTY LOCATED TO THE SOUTH.
1605 MERRIMAN AVE.	MARK & WENDY TAYLOR	2117 LOMARDY CI. CHARLOTTE, NC 28203	R-8	PROPERTY LOCATED TO THE SOUTH.
1609 MERRIMAN AVE.	WILLIE RAYMOND TAYLOR	1609 MERRIMAN AVE. CHARLOTTE, NC 28203	R-5	PROPERTY LOCATED TO THE SOUTH.
1539 MERRIMAN AVE.	GLORIA GIBSON	1539 MERRIMAN AVE. CHARLOTTE, NC 28203	R-5	PROPERTY LOCATED TO THE SOUTH.
1543 MERRIMAN AVE.	DAVID WITHROW	5121 CHILLMARK ROAD CHARLOTTE, NC 28226	R-5	PROPERTY LOCATED TO THE SOUTH.
1547 MERRIMAN AVE.	JOHNNY & CARRIE BARNETT	7330 CAPRI DRIVE CHARLOTTE, NC 28078	R-8	PROPERTY LOCATED TO THE SOUTH.
1551 MERRIMAN AVE.	ARGY CROWE	1551 MERRIMAN AVE. CHARLOTTE, NC 28203	R-8	PROPERTY LOCATED TO THE SOUTH.
1555 MERRIMAN AVE.	JOE ATWATER & SIREATTA GIBSON	303 NELSON DRIVE CHARLOTTE, NC 28105	R-5	PROPERTY LOCATED TO THE SOUTH.
1563 MERRIMAN AVE.	KIATTISAK KONGRUENGKIT	6706 GLENMOOR DRIVE CHARLOTTE, NC 28214	R-8	PROPERTY LOCATED TO THE SOUTH.
1525 MERRIMAN AVE.	TPM PROPERTIES	3816 MOORELAND FARMS CHARLOTTE, NC 28226	R-5	PROPERTY LOCATED TO THE SOUTH.
1552 MERRIMAN AVE.	ROBERT GOODWIN AGENCY	325 WHITE CRANE ROAD CHARLOTT, NC 28146	R-8	PROPERTY LOCATED TO THE SOUTH.

I-1 - LIGHT INDUSTRIAL
I-2 - GENERAL INDUSTRIAL
R-5 - RESIDENTIAL
R-8 - RESIDENTIAL

TABLE 2
RESULTS FOR VOLATILE AND SEMI-VOLATILE ORGANICS ANALYSES FOR SOIL SAMPLES
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
CEI PROJECT NO. 22135

SOIL SAMPLE **SB-1 (5')**	DETECTED CONCENTRATION (mg/kg)	MAXIMUM SOIL CONTAMINANT CONCENTRATIONS (MSCCs) FOR VARIOUS EXPOSURE SCENARIOS (mg/kg)		
COMPOUND		SOIL-TO-GROUND WATER	RESIDENTIAL	INDUSTRIAL/COMMERCIAL
ETHYLBENZENE	<0.0056	0.24	1,560	40,000
M&P-XYLENE	0.012	5	32,000	200,000
O-XYLENE	<0.0056	5	32,000	200,000
NAPHTHALENE	0.011	1	63	1,635
NUMBER OF TENTIVELY IDENTIFIED COMPOUNDS	0	NE	NE	NE

SOIL SAMPLES COLLECTED ON MAY 20, 2002
mg/kg - MILLIGRAMS PER KILOGRAM
NE - NOT ESTABLISHED

TABLE 3
RESULTS FOR VOLATILE AND EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSES FOR SOIL SAMPLES
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
CEI PROJECT 22135

SOIL SAMPLE SB-1 (5')					MAXIMUM SOIL CONTAMINANT CONCENTRATIONS (MSCCs) FOR VARIOUS EXPOSURE SCENARIOS (mg/kg)		
HYDROCARBON FRACTION RANGES	ANALYTICAL HYDROCARBON FRACTION	ANALYTICAL METHOD	CONCENTRATION DETECTED BY LABORATORY (mg/kg)	SUM OF VPH AND EPH CONCENTRATIONS (mg/kg)	SOIL-TO-GROUND WATER	RESIDENTIAL	INDUSTRIAL/COMMERCIAL
C5 - C8 ALIPHATICS	C5 - C8 ALIPHATICS	VPH	<13	<14	72	939	24,528
C9 - C18 ALIPHATICS	C9 - C12 ALIPHATICS	VPH	<13	<26	3,255	9,386	245,280
	C9 - C18 ALIPHATICS	EPH	<13				
C19 - C36 ALIPHATICS	C19 - C36 ALIPHATICS	EPH	<13	<13	CONSIDERED IMMOBILE	93,860	HEALTH-BASED STANDARD > 100%
C9 - C22 AROMATICS	C9 - C10 AROMATICS	VPH	<13	<26	34	469	12,264
	C11 - C22 AROMATICS	EPH	<13				

SOIL SAMPLES COLLECTED MAY 20, 2002.
mg/kg - MILLIGRAMS PER KILOGRAM
VPH - VOLATILE PETROLEUM HYDROCARBONS.
EPH - EXTRACTABLE PETROLEUM HYDROCARBONS.

TABLE 4
RESULTS FOR VOLATILE AND SEMI-VOLATILE ORGANICS ANALYSES FOR GROUND WATER
FORMER COPES-VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
CEI PROJECT NO. 22135

GROUND WATER SAMPLE **MW-1**		NORTH CAROLINA REGULATORY STANDARDS	
COMPOUND	DETECTED CONCENTRATION (ug/l)	NCAC 2L GROUND WATER STANDARDS (ug/l)	GROSS CONTAMINATION LEVELS (ug/l)
ETHYLBENZENE	17	29	29,000
M&P XYLENE	240	530	87,500
O-XYLENE	22	530	87,500
NAPHTHALENE	11	21	15,500
NUMBER OF TENTIVELY IDENTIFIED COMPOUNDS	20	NE	NE

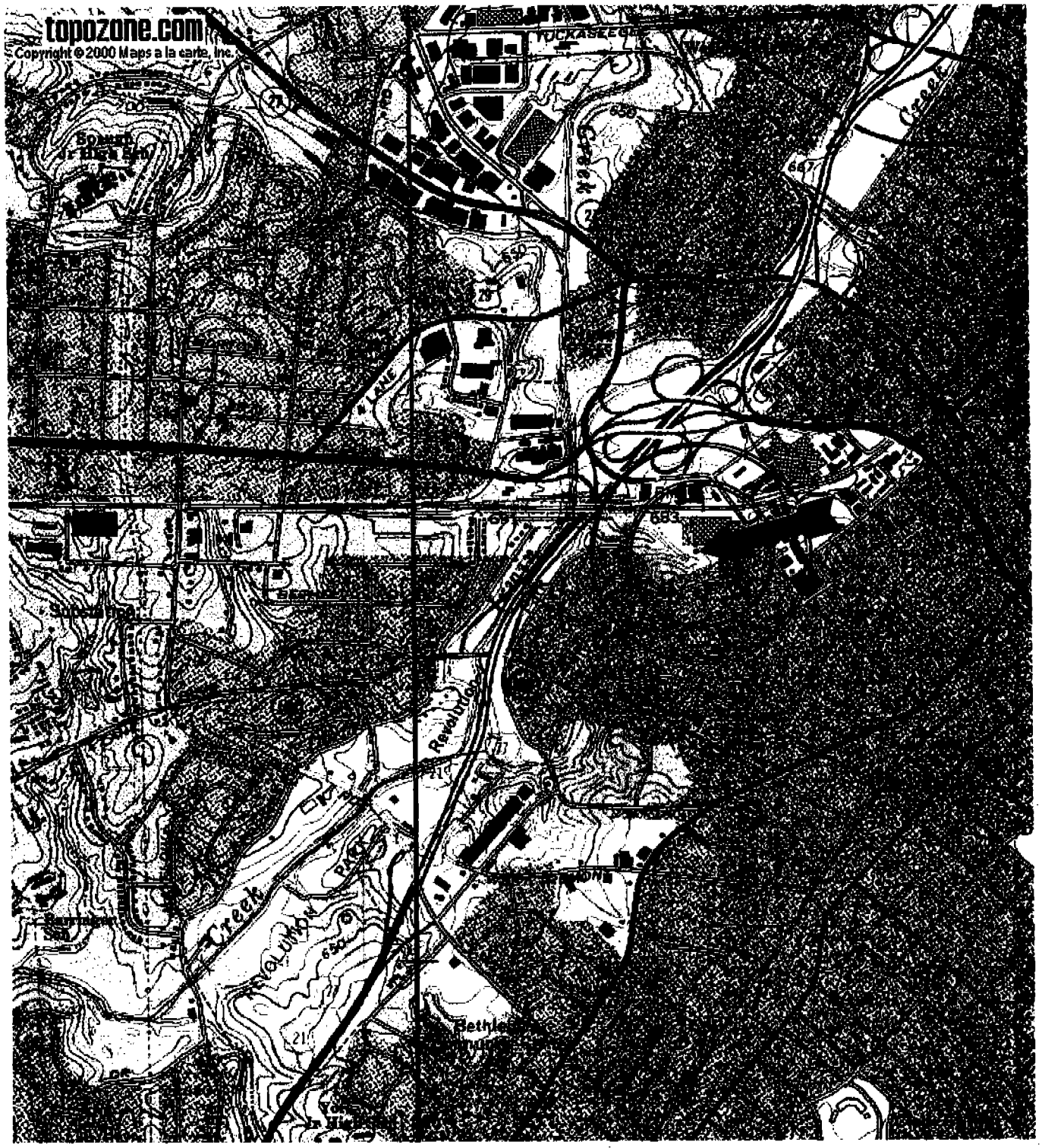
DATE SAMPLED: MAY 20, 2002
ug/l- MICROGRAMS PER LITER
NE - NOT ESTABLISHED

TABLE 5
RESULTS FOR VOLATILE AND EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSES FOR GROUND WATER
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
CEI PROJECT 22135

GROUND WATER SAMPLE **MW-1**					NORTH CAROLINA REGULATORY LIMITS
HYDROCARBON FRACTION STANDARD RANGES	ANALYTICAL HYDROCARBON FRACTION	ANALYTICAL METHOD	CONCENTRATION DETECTED BY LABORATORY (ug/l)	SUM OF VPH AND EPH CONCENTRATIONS (ug/l)	15A NCAC 2L INTERIM OR FINAL STANDARD (ug/l)
C5 - C8 ALIPHATICS	C5 - C8 ALIPHATICS	VPH	130	130	420
C9 - C18 ALIPHATICS	C9 - C12 ALIPHATICS	VPH	4400	4,540	4,200
	C9 - C18 ALIPHATICS	EPH	140		
C19 - C36 ALIPHATICS	C19 - C36 ALIPHATICS	EPH	380	380	42,000
C9 - C22 AROMATICS*	C9 - C10 AROMATICS	VPH	770	990	210
	C11 - C22 AROMATICS	EPH	220		

WATER SAMPLE COLLECTED ON MAY 20, 2002.
ug/l - MICROGRAMS PER LITER
VPH - VOLATILE PETROLEUM HYDROCARBONS.
EPH - EXTRACTABLE PETROLEUM HYDROCARBONS

FIGURES



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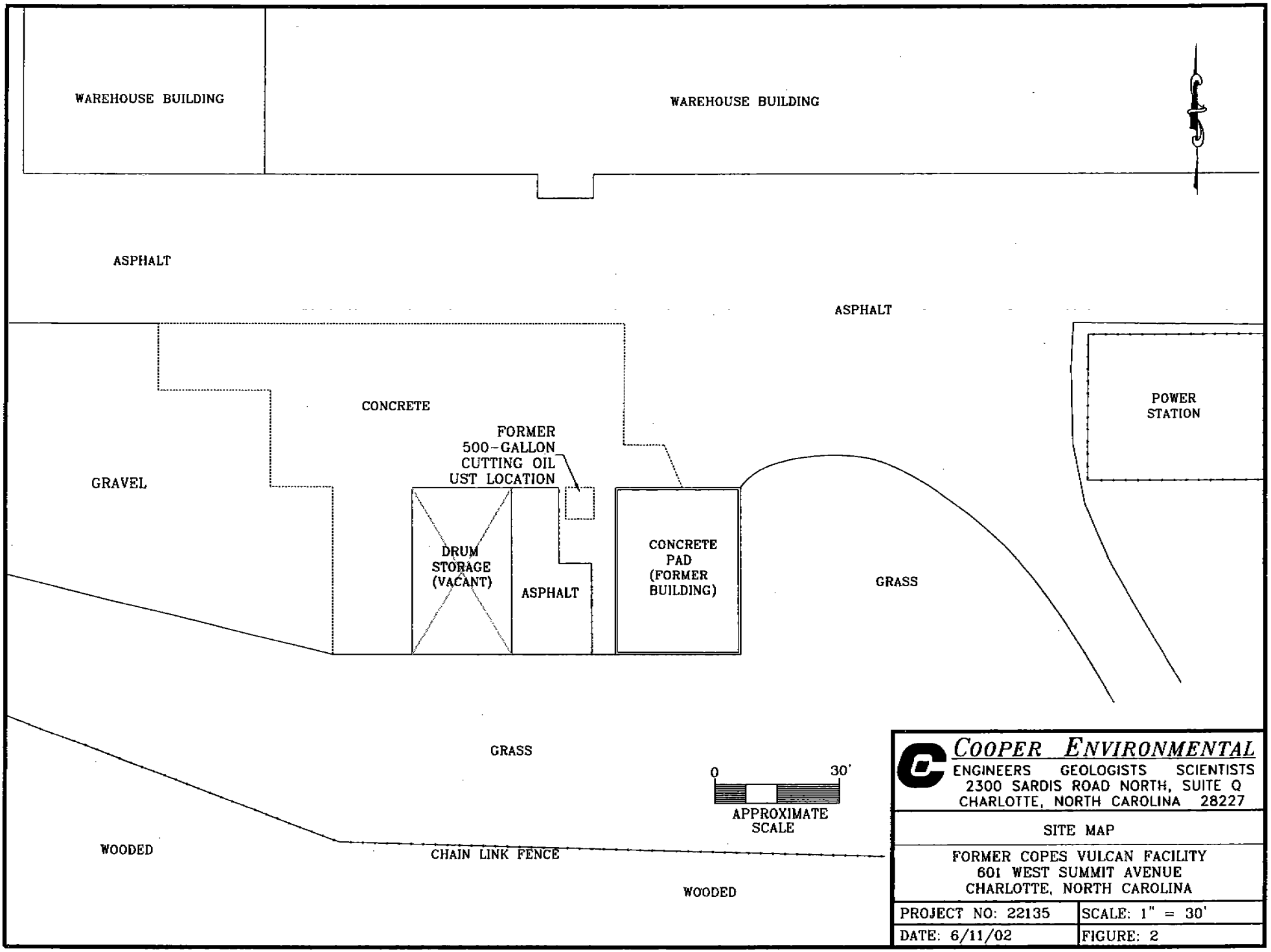
ENGINEERS GEOLOGISTS SCIENTISTS
2300 SARDIS ROAD NORTH, SUITE Q
CHARLOTTE, NORTH CAROLINA 28227

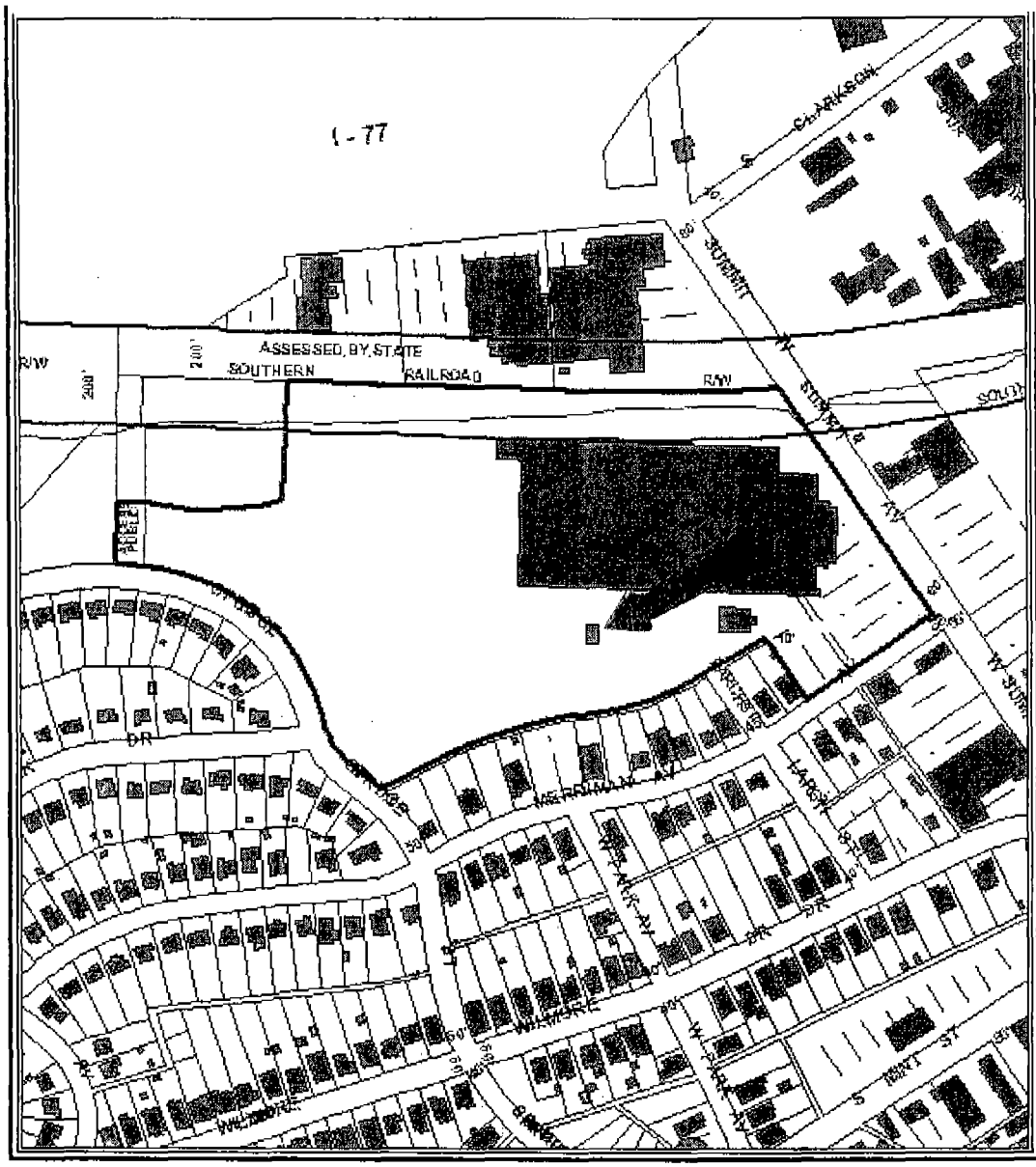
TOPOGRAPHIC LOCATION MAP

FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA

PROJECT NO: 22135	SCALE: AS INDICATED
DATE: 6/11/02	FIGURE: 1

SOURCE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC MAP
CHARLOTTE EAST & WEST, NORTH CAROLINA QUADRANGLES


WAREHOUSE BUILDING
WAREHOUSE BUILDING
ASPHALT
ASPHALT
CONCRETE
FORMER
500-GALLON
CUTTING OIL
UST LOCATION
GRAVEL
DRUM
STORAGE
(VACANT)
ASPHALT
CONCRETE
PAD
(FORMER
BUILDING)
GRASS
POWER
STATION
GRASS
0
30'
APPROXIMATE
SCALE
WOODED
CHAIN LINK FENCE
WOODED
COOPER ENVIRONMENTAL
ENGINEERS GEOLOGISTS SCIENTISTS
2300 SARDIS ROAD NORTH, SUITE Q
CHARLOTTE, NORTH CAROLINA 28227
SITE MAP
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
PROJECT NO: 22135
SCALE: 1" = 30'
DATE: 6/11/02
FIGURE: 2



Use
☐ ☒ Countywide
Zoning
☐ ☑ Preliminary
Plans

Click here to submit questions or comments about the information shown on this page.
Additional Tax Information (Tax Bills, Real and Personal Property, etc.) is available through the:

Tax Information System

Map Scale: 1 Inch = 378 Feet Date and Time Stamp 6/12/2002 2:02:05 PM EST	This map is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map are hereby notified that the aformentioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

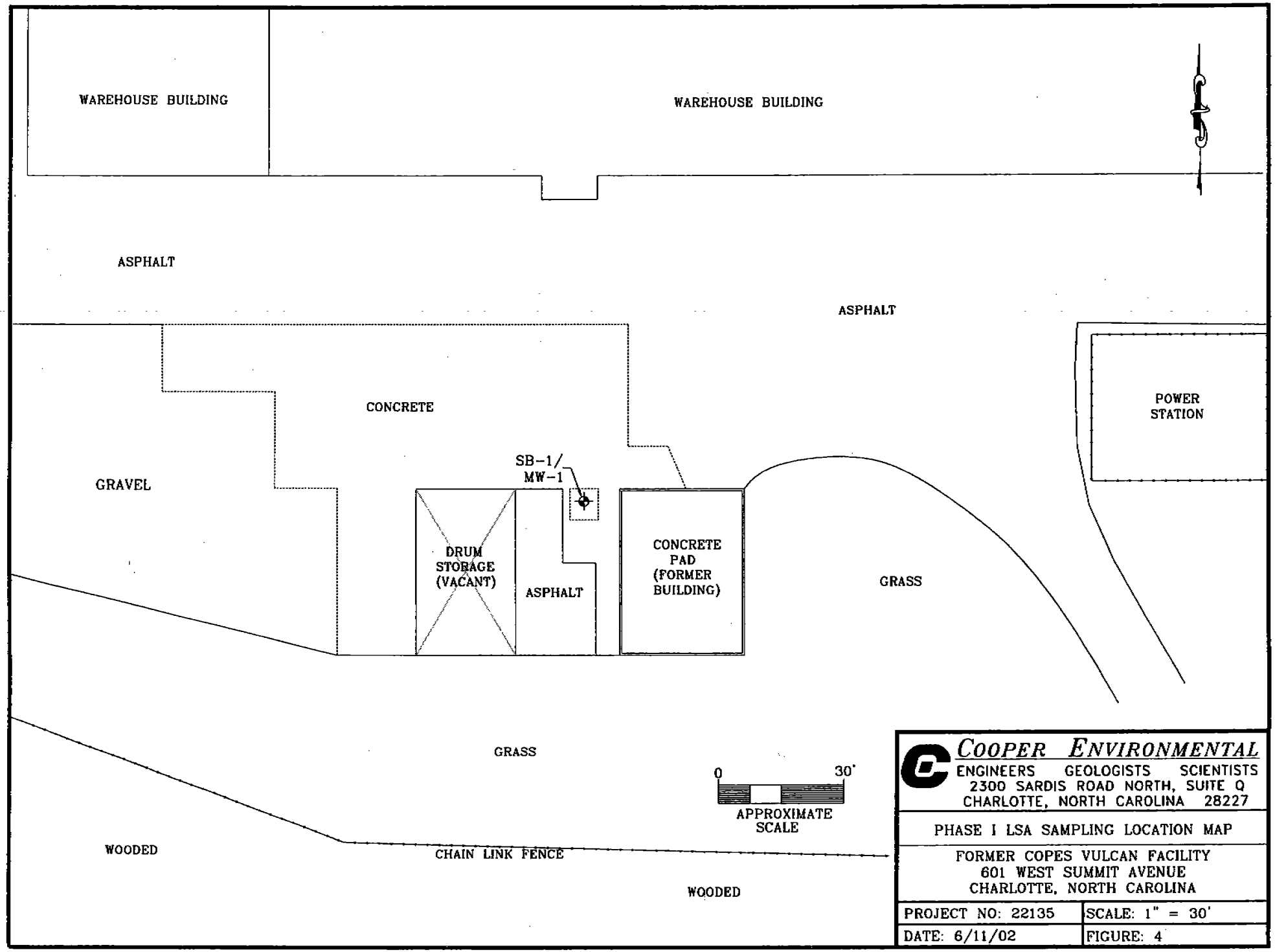
SOURCE: MECKLENBURG COUNTY, NC GIS SYSTEM, MAY 2002

COOPER ENVIRONMENTAL
ENGINEERS GEOLOGISTS SCIENTISTS
2300 SARDIS ROAD NORTH, SUITE Q
CHARLOTTE, NORTH CAROLINA 28227

TAX MAP

FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA

PROJECT NO: 22135	SCALE: AS INDICATED
DATE: 6/11/02	FIGURE: 3


WAREHOUSE BUILDING
WAREHOUSE BUILDING
ASPHALT
ASPHALT
CONCRETE
POWER STATION
GRAVEL
SB-1/ MW-1
DRUM STORAGE (VACANT)
ASPHALT
CONCRETE PAD (FORMER BUILDING)
GRASS
GRASS
0
30'
APPROXIMATE SCALE
WOODED
CHAIN LINK FENCE
WOODED
COOPER ENVIRONMENTAL
ENGINEERS GEOLOGISTS SCIENTISTS
2300 SARDIS ROAD NORTH, SUITE Q
CHARLOTTE, NORTH CAROLINA 28227
PHASE I LSA SAMPLING LOCATION MAP
FORMER COPES VULCAN FACILITY
601 WEST SUMMIT AVENUE
CHARLOTTE, NORTH CAROLINA
PROJECT NO: 22135
SCALE: 1" = 30'
DATE: 6/11/02
FIGURE: 4

APPENDIX A

LSA RISK CLASSIFICATION AND LAND USE FORM

B. Risk Characterization

Submit the following questionnaire in its entirety. Answer all questions completely. Attach additional pages as needed to fully explain answers. Base answers/explanations on information known or required to be obtained during the Limited Site Assessment.

NOTE: *Source area means point of release from a UST system.*

Limited Site Assessment Risk Classification and Land Use Form

Part I – Groundwater/Surface Water/Vapor Impacts

High Risk

1. Has the release contaminated any water supply well including any well used for non-drinking purposes? **YES/NO**
2. Is a water supply well used for drinking water located within 1,000 feet of the source area of the release? **YES/NO**
3. Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release? **YES/NO**
4. Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)? **YES/NO**
5. Do vapors from the release pose a threat of explosion because of accumulation of the vapors in a confined space or pose any other serious threat to public health, public safety or the environment? **YES/NO**

   If yes, describe.

   _____

   _____

   _____

6. Are there any other factors that would cause the release to pose an imminent danger to public health, public safety, or the environment? **YES/NO**

   If yes, describe.

   _____

   _____

Intermediate Risk

7. Is a surface water body located within 500 feet of the source area of the release? **YES/NO**

   If **YES**, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B .0200 by a factor of 10? **YES/NO**
8. Is the source area of the release located within a approved or planned wellhead protection area as defined in 42 USC 300h-7(e)? **YES/NO**

   If yes, describe.

   _____

   _____

9. Is the release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985? **YES/NO**

   _____

   _____

   If **YES**, is the source area of the release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water? **YES/NO**

   If **YES**, describe.

   _____

   _____

10. Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels (see Table 9) established by the Department? **YES/NO**

Part II - Land Use

Property Containing Source Area of Release

The questions below pertain to the property containing the source area of the release.

1. Does the property contain one or more primary or secondary residences (permanent or temporary)? **YES/NO**
   Describe.

2. Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly? **YES/NO**
   Describe.

3. Does the property contain a commercial (e.g., retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial enterprise, or is the land undeveloped? **YES/NO**
   Describe.
   Warehouse building partially occupied by Carocraft wood working operation

4. Do children visit the property? **YES/NO**
   Explain.

   Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? **YES/NO**
   Explain. A chain link fence surrounds the site.

5. Do pavement, buildings, or other structures cap the contaminated soil? **YES/NO**
   Describe.
   Concrete covers the former UST basin

   If yes, what mechanisms are in place or can be put into place to ensure that the contaminated soil will remain capped in the foreseeable future?
   Site status not likely to change

6. What is the zoning status of the property?
   Light industrial (I-1), general industrial (I-2) and office (O-1)

7. Is the use of the property likely to change in the next 20 years? **YES/NO**
   Explain.

Property Surrounding Source Area of Release

The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release):

1. What is the distance from the source area of the release to the **nearest** primary or secondary residence (permanent or temporary)?
   Approximately 200 feet south and up gradient
2. What is the distance from the source area of the release to the **nearest** school, daycare center, hospital, playground, park, recreation area, church, nursing home or other place of public assembly?
   Park is located approximately 1,200 feet west of release
3. What is the zoning status of properties in the surrounding area?
   General industrial (I-2) to north and east
   Residential to south (R-5 or R-8)
4. Briefly characterize the use and activities of the land in the surrounding area.
   Industrial or warehouse to north and east
   Wooded to west
   Residential and wooded to south.

C. Receptor Information

1. Water Supply Wells (Complete and attach Table B-5 and attach map showing well locations)

2. Public Water Supplies
   Are public water supplies available within 1,500 feet of the source area of the release? **YES/NO**
   If yes, where is the location of the nearest public water lines and the source(s) of the public water supply.(indicate on map) Describe. _____

3. Surface Water
   Identify all surface water bodies (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map.

4. Wellhead Protection Areas
   Identify all planned or approved wellhead protection areas (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map. Wellhead protection areas are defined in 42 USC 300h-7(e).

5. Describe Deep Aquifers in the Coastal Plain Physiographic Region *(refer to page 19 of the guidelines):*

NOTE: *This requirement only pertains to releases in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985.*

6. Describe Subsurface Structures *(refer to page 19 of the guidelines):*

APPENDIX B

SOIL BORING LOG

COOPER ENVIRONMENTAL *ENGINEERS GEOLOGISTS SCIENTISTS* 2300 Sardis Road North Suite Q Charlotte, North Carolina 28227 Telephone: (704) 845 - 2000 Fax: (704) 845 - 8901	Boring Log:	SB-1/MW-1	Project:	Copes Vulcan
	Date:	5/20/02	Project No:	22135
	Drilling Cont.	Subsurface Investigations		
	Prepared By:	Doug Pierotti	County:	Mecklenburg
	Address:	601 West Summit Ave. Charlotte, North Carolina	Total Depth	18 feet
			Hole Diameter:	3 inch
	Lgth Coring Device:	NA	Dis. Core Device:	NA

Boring Methods	Groundwater Observations		Drilling Method :	Geoprobe
Hollow Stem Auger	GW Encountered at:	10.00'	Drilling Fluid:	None
Hand Auger	GW After Completion:	10.30'	Driller:	Walt
Other : **Geoprobe**	GW After:	NA	Hammer Weight:	NA
	GW Volumes:	NA	Hammer Drop:	NA

Penetra. Blow Per 6"	Sample Type	Depth (FT)	Soil Description		Remarks
		0.0	Patched concrete at former UST basin area		
			Concrete debris fragments		
		5'	Orange to brown, soft clay		
		7'	Brown/black soft moist clay layer with black sandy oil odor		
		10'	Black, stained saprolitic friable rock with oily odor		
		15'	Dark brown to black fine sandy clay to a weathered saprolite		Becoming hard to drill
			Wet gray-black water		
		18'	Yellow-tan, brown friable saprolite with sand		Refusal at bedrock
		TD=18	Set 1" diameter PVC well		Water sample: 601/602, VPH & EPH

SS - Split Spoon
ST - Shelby Tube
CT – Continuous Core
AS - Power Auger Sample
WS - Wash Sample
HA - Hand Auger Sample
BS - Misc. Bag or Bottle Sample
NR – No Recovery
RB - Rock Bit
RC - Rock Core

APPENDIX C

WELL CONSTRUCTION RECORD

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Walter Davis CERTIFICATION # 3162

WELL CONTRACTOR COMPANY NAME Subsurface Environmental Invest PHONE # 704-876-0010

STATE WELL CONSTRUCTION PERMIT# _____ (if applicable) ASSOCIATED WQ PERMIT# _____ (if applicable)

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐ Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION:
Nearest Town: Charlotte County Mecklenburg
former Copes-Vulcan Facility, 601 W. Summit Ave
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐Ridge ☒Slope ☐Valley ☐Flat
(check appropriate box)

Latitude/longitude of well location
_____ (degrees/minutes/seconds)
Latitude/longitude source: ☐GPS ☐Topographic map (check box)

3. OWNER: Carocraft, INC.
Address 601 West Summit Ave. (Street or Route No.)
Charlotte, NC (City or Town, State, Zip Code)
(____)-_____ (Area code- Phone number)

4. DATE DRILLED 5-20-02
5. TOTAL DEPTH: 18'
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: _____ FT. (Use "+" if Above Top of Casing)
8. TOP OF CASING IS 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): n/a METHOD OF TEST n/a
10. WATER ZONES (depth): n/a

DEPTH From	DEPTH To	DRILLING LOG Formation Description

11. DISINFECTION: Type n/a Amount n/a
12. CASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
	8'	0	1"	sch40	pvc

13. GROUT:

	Depth From	Depth To	Material	Method
	4'	0	neat cement	tremie

14. SCREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
	18'	8'	1 in.	.010 in.	pvc
			in.	in.	

15. SAND/GRAVEL PACK:

	Depth From	Depth To	Size	Material
	18'	6'	10/30	silica sand

16. REMARKS: Bentonite 6' to 4' MW#1

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads. Include the road numbers and common road names.

Carocraft, Inc
601 West Summit Ave
Charlotte, NC

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Walter L Davis 5-30-02
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

APPENDIX D

PACE ANALYTICAL LABORATORY REPORT

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

June 05, 2002

Mr. Doug Pierotti
Cooper Environmental, Inc.
2300 Sardis Road North
Suite Q
Charlotte, NC 28227

RE: Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Dear Mr. Pierotti:

Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Bonnie Kamla

Bonnie Kamla
Bonnie.Kamla@pacelabs.com
Project Manager

Enclosures

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Solid results are reported on a dry weight basis

Lab Sample No: 922276183 | Project Sample Number: 9233014-001 | Date Collected: 05/20/02 10:00
Client Sample ID: SB-1(5') | Matrix: Soil | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	20.8	%		05/21/02	JBK			
GC/MS Semivolatiles								
Semivolatile Organics	Prep/Method: EPA 3550 / EPA 8270							
Acenaphthene	ND	ug/kg	620	05/27/02 15:28	CMJ	83-32-9		
Acenaphthylene	ND	ug/kg	620	05/27/02 15:28	CMJ	208-96-8		
Anthracene	ND	ug/kg	620	05/27/02 15:28	CMJ	120-12-7		
Benzo(a)anthracene	ND	ug/kg	620	05/27/02 15:28	CMJ	56-55-3		
Benzo(a)pyrene	ND	ug/kg	620	05/27/02 15:28	CMJ	50-32-8		
Benzo(b)fluoranthene	ND	ug/kg	620	05/27/02 15:28	CMJ	205-99-2		
Benzo(g,h,i)perylene	ND	ug/kg	620	05/27/02 15:28	CMJ	191-24-2		
Benzo(k)fluoranthene	ND	ug/kg	620	05/27/02 15:28	CMJ	207-08-9		
Benzoic acid	ND	ug/kg	3100	05/27/02 15:28	CMJ	65-85-0		
Benzyl alcohol	ND	ug/kg	1200	05/27/02 15:28	CMJ	100-51-6		
4-Bromophenylphenyl ether	ND	ug/kg	620	05/27/02 15:28	CMJ	101-55-3		
Butylbenzylphthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	85-68-7		
4-Chloro-3-methylphenol	ND	ug/kg	1200	05/27/02 15:28	CMJ	59-50-7		
4-Chloroaniline	ND	ug/kg	1200	05/27/02 15:28	CMJ	106-47-8		
bis(2-Chloroethoxy)methane	ND	ug/kg	620	05/27/02 15:28	CMJ	111-91-1		
bis(2-Chloroethyl) ether	ND	ug/kg	620	05/27/02 15:28	CMJ	111-44-4		
bis(2-Chloroisopropyl) ether	ND	ug/kg	620	05/27/02 15:28	CMJ	39638-32-9		
2-Chloronaphthalene	ND	ug/kg	620	05/27/02 15:28	CMJ	91-58-7		
2-Chlorophenol	ND	ug/kg	620	05/27/02 15:28	CMJ	95-57-8		
4-Chlorophenylphenyl ether	ND	ug/kg	620	05/27/02 15:28	CMJ	7005-72-3		
Chrysene	ND	ug/kg	620	05/27/02 15:28	CMJ	218-01-9		
Dibenz(a,h)anthracene	ND	ug/kg	620	05/27/02 15:28	CMJ	53-70-3		
Dibenzofuran	ND	ug/kg	620	05/27/02 15:28	CMJ	132-64-9		
1,2-Dichlorobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	95-50-1		
1,3-Dichlorobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	106-46-7		
3,3'-Dichlorobenzidine	ND	ug/kg	1200	05/27/02 15:28	CMJ	91-94-1		
2,4-Dichlorophenol	ND	ug/kg	620	05/27/02 15:28	CMJ	120-83-2		
Diethylphthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	84-66-2		
2,4-Dimethylphenol	ND	ug/kg	620	05/27/02 15:28	CMJ	105-67-9		
Dimethylphthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	131-11-3		
Di-n-butylphthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	84-74-2		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276183 | Project Sample Number: 9233014-001 | Date Collected: 05/20/02 10:00
Client Sample ID: SB-1(5') | Matrix: Soil | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
4,6-Dinitro-2-methylphenol	ND	ug/kg	620	05/27/02 15:28	CMJ	534-52-1		
2,4-Dinitrophenol	ND	ug/kg	3100	05/27/02 15:28	CMJ	51-28-5		
2,4-Dinitrotoluene	ND	ug/kg	620	05/27/02 15:28	CMJ	121-14-2		
2,6-Dinitrotoluene	ND	ug/kg	620	05/27/02 15:28	CMJ	606-20-2		
Di-n-octylphthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	117-84-0		
1,2-Diphenylhydrazine	ND	ug/kg	620	05/27/02 15:28	CMJ	122-66-7		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	620	05/27/02 15:28	CMJ	117-81-7		
Fluoranthene	ND	ug/kg	620	05/27/02 15:28	CMJ	206-44-0		
Fluorene	ND	ug/kg	620	05/27/02 15:28	CMJ	86-73-7		
Hexachloro-1,3-butadiene	ND	ug/kg	620	05/27/02 15:28	CMJ	87-68-3		
Hexachlorobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	118-74-1		
Hexachlorocyclopentadiene	ND	ug/kg	620	05/27/02 15:28	CMJ	77-47-4		
Hexachloroethane	ND	ug/kg	620	05/27/02 15:28	CMJ	67-72-1		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	620	05/27/02 15:28	CMJ	193-39-5		
Isophorone	ND	ug/kg	620	05/27/02 15:28	CMJ	78-59-1		
2-Methylnaphthalene	ND	ug/kg	620	05/27/02 15:28	CMJ	91-57-6		
2-Methylphenol (o-Cresol)	ND	ug/kg	620	05/27/02 15:28	CMJ	95-48-7		
3&4-Methylphenol	ND	ug/kg	620	05/27/02 15:28	CMJ			
Naphthalene	ND	ug/kg	620	05/27/02 15:28	CMJ	91-20-3		
2-Nitroaniline	ND	ug/kg	3100	05/27/02 15:28	CMJ	88-74-4		
3-Nitroaniline	ND	ug/kg	3100	05/27/02 15:28	CMJ	99-09-2		
4-Nitroaniline	ND	ug/kg	3100	05/27/02 15:28	CMJ	100-01-6		
Nitrobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	98-95-3		
2-Nitrophenol	ND	ug/kg	620	05/27/02 15:28	CMJ	88-75-5		
4-Nitrophenol	ND	ug/kg	3100	05/27/02 15:28	CMJ	100-02-7		
N-Nitroso-di-n-propylamine	ND	ug/kg	620	05/27/02 15:28	CMJ	621-64-7		
N-Nitrosodiphenylamine	ND	ug/kg	620	05/27/02 15:28	CMJ	86-30-6		
Pentachlorophenol	ND	ug/kg	3100	05/27/02 15:28	CMJ	87-86-5		
Phenanthrene	ND	ug/kg	620	05/27/02 15:28	CMJ	85-01-8		
Phenol	ND	ug/kg	620	05/27/02 15:28	CMJ	108-95-2		
Pyrene	ND	ug/kg	620	05/27/02 15:28	CMJ	129-00-0		
1,2,4-Trichlorobenzene	ND	ug/kg	620	05/27/02 15:28	CMJ	120-82-1		
2,4,5-Trichlorophenol	ND	ug/kg	620	05/27/02 15:28	CMJ	95-95-4		
2,4,6-Trichlorophenol	ND	ug/kg	620	05/27/02 15:28	CMJ	88-06-2		
Nitrobenzene-d5 (S)	50	%		05/27/02 15:28	CMJ	4165-60-0		
2-Fluorobiphenyl (S)	76	%		05/27/02 15:28	CMJ	321-60-8		
Terphenyl-d14 (S)	109	%		05/27/02 15:28	CMJ	1718-51-0		
Phenol-d5 (S)	76	%		05/27/02 15:28	CMJ	4165-62-2		
2-Fluorophenol (S)	64	%		05/27/02 15:28	CMJ	367-12-4		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276183 | Project Sample Number: 9233014-001 | Date Collected: 05/20/02 10:00
Client Sample ID: SB-1(5') | Matrix: Soil | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
2,4,6-Tribromophenol (S)	88	%		05/27/02 15:28	CMJ			
Date Extracted				05/23/02				
GC Semivolatiles								
EPH in Soil by Mass. Method	Prep/Method: EPA 3550 / EPH							
Aliphatic (C09-C18)	ND	mg/kg	13.	05/24/02	KAP			
Aliphatic (C19-C36)	ND	mg/kg	13.	05/24/02	KAP			
Aromatic (C11-22)	ND	mg/kg	13.	05/24/02	KAP			
Total Petroleum Hydrocarbons	ND	mg/kg	38.	05/24/02	KAP			
Nonatriacontane (S)	133	%		05/24/02	KAP	7194-86-7		
o-Terphenyl (S)	74	%		05/24/02	KAP	84-15-1		
Date Extracted				05/23/02				
GC Volatiles								
VPH in Soil by Mass. Method	Method: VPH							
Aliphatic (C05-C08)	ND	mg/kg	13.	05/25/02	KSB			
Aliphatic (C09-C12)	ND	mg/kg	13.	05/25/02	KSB			
Aromatic (C09-C10)	ND	mg/kg	13.	05/25/02	KSB			
2,5-Dibromotoluene (FID)(S)	93	%		05/25/02	KSB			
2,5-Dibromotoluene (PID)(S)	110	%		05/25/02	KSB			
GC/MS Volatiles								
GC/MS VOCs 5035/8260 low level	Method: EPA 8260							
Benzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	71-43-2		
Bromobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	108-86-1		
Bromochloromethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	74-97-5		
Bromodichloromethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-27-4		
Bromoform	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-25-2		
Bromomethane	ND	ug/kg	11.	05/25/02 18:13	BCK	74-83-9		
n-Butylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	104-51-8		
sec-Butylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	98-06-6		
Carbon tetrachloride	ND	ug/kg	5.6	05/25/02 18:13	BCK	56-23-5		
Chlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	108-90-7		
Chloroethane	ND	ug/kg	11.	05/25/02 18:13	BCK	75-00-3		
Chloroform	ND	ug/kg	5.6	05/25/02 18:13	BCK	67-66-3		
Chloromethane	ND	ug/kg	11.	05/25/02 18:13	BCK	74-87-3		
2-Chlorotoluene	ND	ug/kg	5.6	05/25/02 18:13	BCK	95-49-8		
4-Chlorotoluene	ND	ug/kg	5.6	05/25/02 18:13	BCK	106-43-4		

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276183 | Project Sample Number: 9233014-001 | Date Collected: 05/20/02 10:00
Client Sample ID: SB-1(5') | Matrix: Soil | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.6	05/25/02 18:13	BCK	96-12-8		
Dibromochloromethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.6	05/25/02 18:13	BCK	106-93-4		
Dibromomethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	74-95-3		
1,2-Dichlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	95-50-1		
1,3-Dichlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	106-46-7		
Dichlorodifluoromethane	ND	ug/kg	11.	05/25/02 18:13	BCK	75-71-8		
1,1-Dichloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-34-3		
1,2-Dichloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	107-06-2		
1,1-Dichloroethene	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-35-4		
cis-1,2-Dichloroethene	ND	ug/kg	5.6	05/25/02 18:13	BCK	156-59-2		
trans-1,2-Dichloroethene	ND	ug/kg	5.6	05/25/02 18:13	BCK	156-60-5		
1,2-Dichloropropane	ND	ug/kg	5.6	05/25/02 18:13	BCK	78-87-5		
1,3-Dichloropropane	ND	ug/kg	5.6	05/25/02 18:13	BCK	142-28-9		
2,2-Dichloropropane	ND	ug/kg	5.6	05/25/02 18:13	BCK	594-20-7		
1,1-Dichloropropene	ND	ug/kg	5.6	05/25/02 18:13	BCK	563-58-6		
Diisopropyl ether	ND	ug/kg	5.6	05/25/02 18:13	BCK	108-20-3		
Ethylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/kg	5.6	05/25/02 18:13	BCK	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/kg	5.6	05/25/02 18:13	BCK	98-82-8		
p-Isopropyltoluene	ND	ug/kg	5.6	05/25/02 18:13	BCK	99-87-6		
Methylene chloride	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-09-2		
Methyl-tert-butyl ether	ND	ug/kg	5.6	05/25/02 18:13	BCK	1634-04-4		
Naphthalene	11.	ug/kg	5.6	05/25/02 18:13	BCK	91-20-3		
n-Propylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	103-65-1		
Styrene	ND	ug/kg	5.6	05/25/02 18:13	BCK	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	79-34-5		
Tetrachloroethene	ND	ug/kg	5.6	05/25/02 18:13	BCK	127-18-4		
Toluene	ND	ug/kg	5.6	05/25/02 18:13	BCK	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	120-82-1		
1,1,1-Trichloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	71-55-6		
1,1,2-Trichloroethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	79-00-5		
Trichloroethene	ND	ug/kg	5.6	05/25/02 18:13	BCK	79-01-6		
Trichlorofluoromethane	ND	ug/kg	5.6	05/25/02 18:13	BCK	75-69-4		
1,2,3-Trichloropropane	ND	ug/kg	5.6	05/25/02 18:13	BCK	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	95-63-6		

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276183
Client Sample ID: SB-1(5')
Project Sample Number: 9233014-001
Matrix: Soil
Date Collected: 05/20/02 10:00
Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,3,5-Trimethylbenzene	ND	ug/kg	5.6	05/25/02 18:13	BCK	108-67-8		
Vinyl chloride	ND	ug/kg	11.	05/25/02 18:13	BCK	75-01-4		
m&p-Xylene	12.	ug/kg	11.	05/25/02 18:13	BCK			
o-Xylene	ND	ug/kg	5.6	05/25/02 18:13	BCK	95-47-6		
Toluene-d8 (S)	97	%		05/25/02 18:13	BCK	2037-26-5		
4-Bromofluorobenzene (S)	101	%		05/25/02 18:13	BCK	460-00-4		
Dibromofluoromethane (S)	91	%		05/25/02 18:13	BCK			
1,2-Dichloroethane-d4 (S)	87	%		05/25/02 18:13	BCK	17060-07-0		

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276209 | Project Sample Number: 9233014-002 | Date Collected: 05/20/02 11:45
Client Sample ID: MW-1 | Matrix: Water | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Semivolatiles								
Extractables in Water by 625	Prep/Method: EPA 625 SF / EPA 625							
N-Nitrosodimethylamine	ND	ug/l	5.0	05/24/02 20:38	RPJ	62-75-9		
bis(2-Chloroethyl) ether	ND	ug/l	5.0	05/24/02 20:38	RPJ	111-44-4		
Phenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	108-95-2		
2-Chlorophenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	95-57-8		
1,3-Dichlorobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	106-46-7		
1,2-Dichlorobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	95-50-1		
bis(2-Chloroisopropyl) ether	ND	ug/l	5.0	05/24/02 20:38	RPJ	39638-32-9		
Hexachloroethane	ND	ug/l	5.0	05/24/02 20:38	RPJ	67-72-1		
N-Nitroso-di-n-propylamine	ND	ug/l	5.0	05/24/02 20:38	RPJ	621-64-7		
Nitrobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	98-95-3		
Isophorone	ND	ug/l	5.0	05/24/02 20:38	RPJ	78-59-1		
2-Nitrophenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	88-75-5		
2,4-Dimethylphenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	105-67-9		
bis(2-Chloroethoxy)methane	ND	ug/l	5.0	05/24/02 20:38	RPJ	111-91-1		
2,4-Dichlorophenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	120-82-1		
Naphthalene	11.	ug/l	5.0	05/24/02 20:38	RPJ	91-20-3		
Hexachloro-1,3-butadiene	ND	ug/l	5.0	05/24/02 20:38	RPJ	87-68-3		
4-Chloro-3-methylphenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	59-50-7		
Hexachlorocyclopentadiene	ND	ug/l	10.	05/24/02 20:38	RPJ	77-47-4		
2,4,6-Trichlorophenol	ND	ug/l	5.0	05/24/02 20:38	RPJ	88-06-2		
2-Chloronaphthalene	ND	ug/l	5.0	05/24/02 20:38	RPJ	91-58-7		
Acenaphthylene	ND	ug/l	5.0	05/24/02 20:38	RPJ	208-96-8		
Dimethylphthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	131-11-3		
2,6-Dinitrotoluene	ND	ug/l	5.0	05/24/02 20:38	RPJ	606-20-2		
Acenaphthene	ND	ug/l	5.0	05/24/02 20:38	RPJ	83-32-9		
2,4-Dinitrophenol	ND	ug/l	25.	05/24/02 20:38	RPJ	51-28-5		
2,4-Dinitrotoluene	ND	ug/l	5.0	05/24/02 20:38	RPJ	121-14-2		
4-Nitrophenol	ND	ug/l	25.	05/24/02 20:38	RPJ	100-02-7		
Fluorene	ND	ug/l	5.0	05/24/02 20:38	RPJ	86-73-7		
4-Chlorophenylphenyl ether	ND	ug/l	5.0	05/24/02 20:38	RPJ	7005-72-3		
Diethylphthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	84-66-2		
4,6-Dinitro-2-methylphenol	ND	ug/l	25.	05/24/02 20:38	RPJ	534-52-1		
N-Nitrosodiphenylamine	ND	ug/l	5.0	05/24/02 20:38	RPJ	86-30-6		
4-Bromophenylphenyl ether	ND	ug/l	5.0	05/24/02 20:38	RPJ	101-55-3		
Hexachlorobenzene	ND	ug/l	5.0	05/24/02 20:38	RPJ	118-74-1		

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276209 | Project Sample Number: 9233014-002 | Date Collected: 05/20/02 11:45
Client Sample ID: MW-1 | Matrix: Water | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Pentachlorophenol	ND	ug/l	25.	05/24/02 20:38	RPJ	87-86-5		
Phenanthrene	ND	ug/l	5.0	05/24/02 20:38	RPJ	85-01-8		
Anthracene	ND	ug/l	5.0	05/24/02 20:38	RPJ	120-12-7		
Di-n-butylphthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	84-74-2		
Fluoranthene	ND	ug/l	5.0	05/24/02 20:38	RPJ	206-44-0		
Benzidine	ND	ug/l	50.	05/24/02 20:38	RPJ	92-87-5		
Pyrene	ND	ug/l	5.0	05/24/02 20:38	RPJ	129-00-0		
Butylbenzylphthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/l	10.	05/24/02 20:38	RPJ	91-94-1		
Benzo(a)anthracene	ND	ug/l	5.0	05/24/02 20:38	RPJ	56-55-3		
Chrysene	ND	ug/l	5.0	05/24/02 20:38	RPJ	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	117-81-7		
Di-n-octylphthalate	ND	ug/l	5.0	05/24/02 20:38	RPJ	117-84-0		
Benzo(b)fluoranthene	ND	ug/l	5.0	05/24/02 20:38	RPJ	205-99-2		
Benzo(k)fluoranthene	ND	ug/l	5.0	05/24/02 20:38	RPJ	207-08-9		
Benzo(a)pyrene	ND	ug/l	5.0	05/24/02 20:38	RPJ	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	05/24/02 20:38	RPJ	193-39-5		
Dibenz(a,h)anthracene	ND	ug/l	5.0	05/24/02 20:38	RPJ	53-70-3		
Benzo(g,h,i)perylene	ND	ug/l	5.0	05/24/02 20:38	RPJ	191-24-2		
Nitrobenzene-d5 (S)	57	%		05/24/02 20:38	RPJ	4165-60-0		
2-Fluorobiphenyl (S)	63	%		05/24/02 20:38	RPJ	321-60-8		
Terphenyl-d14 (S)	82	%		05/24/02 20:38	RPJ	1718-51-0		
Phenol-d5 (S)	20	%		05/24/02 20:38	RPJ	4165-62-2		
2-Fluorophenol (S)	23	%		05/24/02 20:38	RPJ	367-12-4		
2,4,6-Tribromophenol (S)	81	%		05/24/02 20:38	RPJ			
Date Extracted				05/24/02				

GC Semivolatiles

EPH in Water by Mass. Method	Prep/Method: EPA 3510 / EPH							
Aliphatic (C09-C18)	140	ug/l	100	05/31/02	KAP			
Aliphatic (C19-C36)	380	ug/l	100	05/31/02	KAP			
Aromatic (C11-22)	220	ug/l	100	05/31/02	KAP			
2-Fluorobiphenyl (S)	41	%		05/31/02	KAP	321-60-8		
2-Bromonaphthalene (S)	64	%		05/31/02	KAP	580-13-2		
Nonatriacontane (S)	49	%		05/31/02	KAP	7194-86-7		
o-Terphenyl (S)	35	%		05/31/02	KAP	84-15-1	1	
Date Extracted				05/28/02				

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276209 | Project Sample Number: 9233014-002 | Date Collected: 05/20/02 11:45
Client Sample ID: MW-1 | Matrix: Water | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles								
Halogen. & Aromatic Vol. Orgs.	Method: EPA 601/602							
Dichlorodifluoromethane	ND	ug/l	10.	05/24/02	KTV	75-71-8		
Chloromethane	ND	ug/l	20.	05/24/02	KTV	74-87-3		
Vinyl chloride	ND	ug/l	10.	05/24/02	KTV	75-01-4		
Bromomethane	ND	ug/l	10.	05/24/02	KTV	74-83-9		
Chloroethane	ND	ug/l	10.	05/24/02	KTV	75-00-3		
Trichlorofluoromethane	ND	ug/l	10.	05/24/02	KTV	75-69-4		
1,1-Dichloroethene	ND	ug/l	10.	05/24/02	KTV	75-35-4		
Methylene chloride	ND	ug/l	20.	05/24/02	KTV	75-09-2		
trans-1,2-Dichloroethene	ND	ug/l	10.	05/24/02	KTV	156-60-5		
1,1-Dichloroethane	ND	ug/l	10.	05/24/02	KTV	75-34-3		
Chloroform	ND	ug/l	10.	05/24/02	KTV	67-66-3		
1,1,1-Trichloroethane	ND	ug/l	10.	05/24/02	KTV	71-55-6		
Carbon tetrachloride	ND	ug/l	10.	05/24/02	KTV	56-23-5		
1,2-Dichloroethane	ND	ug/l	10.	05/24/02	KTV	107-06-2		
Trichloroethene	ND	ug/l	10.	05/24/02	KTV	79-01-6		
1,2-Dichloropropane	ND	ug/l	10.	05/24/02	KTV	78-87-5		
Bromodichloromethane	ND	ug/l	10.	05/24/02	KTV	75-27-4		
cis-1,3-Dichloropropene	ND	ug/l	10.	05/24/02	KTV	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	10.	05/24/02	KTV	10061-02-6		
1,1,2-Trichloroethane	ND	ug/l	10.	05/24/02	KTV	79-00-5		
Tetrachloroethene	ND	ug/l	10.	05/24/02	KTV	127-18-4		
Dibromochloromethane	ND	ug/l	10.	05/24/02	KTV	124-48-1		
Bromoform	ND	ug/l	10.	05/24/02	KTV	75-25-2		
1,1,2,2-Tetrachloroethane	ND	ug/l	10.	05/24/02	KTV	79-34-5		
Methyl-tert-butyl ether	ND	ug/l	10.	05/24/02	KTV	1634-04-4		
Diisopropyl ether	ND	ug/l	10.	05/24/02	KTV	108-20-3		
Benzene	ND	ug/l	10.	05/24/02	KTV	71-43-2		
Toluene	ND	ug/l	10.	05/24/02	KTV	108-88-3		
Chlorobenzene	ND	ug/l	10.	05/24/02	KTV	108-90-7		
Ethylbenzene	17.	ug/l	10.	05/24/02	KTV	100-41-4		
m&p-Xylene	240	ug/l	10.	05/24/02	KTV			
o-Xylene	22.	ug/l	10.	05/24/02	KTV	95-47-6		
1,3-Dichlorobenzene	ND	ug/l	10.	05/24/02	KTV	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	10.	05/24/02	KTV	106-46-7		
1,2-Dichlorobenzene	ND	ug/l	10.	05/24/02	KTV	95-50-1		
1-Chloro-3-fluorobenzene (S)	100	%		05/24/02	KTV	625-98-9		

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Lab Sample No: 922276209 | Project Sample Number: 9233014-002 | Date Collected: 05/20/02 11:45
Client Sample ID: MW-1 | Matrix: Water | Date Received: 05/21/02 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
VPH in Water by Mass. Method	Method: VPH							
Aliphatic (C05-C08)	130	ug/l	100	05/23/02	KSB			
Aliphatic (C09-C12)	4400	ug/l	100	05/23/02	KSB			
Aromatic (C09-C10)	770	ug/l	100	05/23/02	KSB			
2,5-Dibromotoluene (FID)(S)	190	%		05/23/02	KSB		2	
2,5-Dibromotoluene (PID)(S)	84	%		05/23/02	KSB			

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

PARAMETER FOOTNOTES

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining surrogate.
[2]	The surrogate recovery was outside QC acceptance limits due to matrix interference.

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57690 Analysis Method: EPH
QC Batch Method: EPA 3550 Analysis Description: EPH in Soil by Mass. Method
Associated Lab Samples: 922276183

METHOD BLANK: 922280128
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Aliphatic (C09-C18)	mg/kg	ND	10.	
Aliphatic (C19-C36)	mg/kg	ND	10.	
Aromatic (C11-22)	mg/kg	ND	10.	
Nonatriacontane (S)	%	76		
o-Terphenyl (S)	%	90		

LABORATORY CONTROL SAMPLE: 922277157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Aliphatic (C09-C18)	mg/kg	10.00	7.147	72	
Aliphatic (C19-C36)	mg/kg	13.33	11.17	84	
Aromatic (C11-22)	mg/kg	28.33	27.82	98	
Nonatriacontane (S)				139	
o-Terphenyl (S)				83	

MATRIX SPIKE: 922277124

Parameter	Units	922276605 Result	Spike Conc.	MS Result	MS % Rec	Footnotes
Aliphatic (C09-C18)	mg/kg	0	13.72	6.059	44	
Aliphatic (C19-C36)	mg/kg	0	18.29	8.480	46	
Aromatic (C11-22)	mg/kg	0	38.87	37.50	96	
Nonatriacontane (S)					113	
o-Terphenyl (S)					95	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

SAMPLE DUPLICATE: 922277140

Parameter	Units	922276613 Result	DUP Result	RPD	Footnotes
Aliphatic (C09-C18)	mg/kg	ND	ND	NC	
Aliphatic (C19-C36)	mg/kg	ND	ND	NC	
Aromatic (C11-22)	mg/kg	ND	ND	NC	
Total Petroleum Hydrocarbons	mg/kg	ND	ND	NC	
Nonatriacontane (S)	%	108	133		
o-Terphenyl (S)	%	49	64		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57899 Analysis Method: EPH
QC Batch Method: EPA 3510 Analysis Description: EPH in Water by Mass. Method
Associated Lab Samples: 922276209

METHOD BLANK: 922287214
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Aliphatic (C09-C18)	ug/l	ND	100	
Aliphatic (C19-C36)	ug/l	ND	100	
Aromatic (C11-22)	ug/l	ND	100	1
2-Fluorobiphenyl (S)	%	10		2
2-Bromonaphthalene (S)	%	2		2
Nonatriacontane (S)	%	107		
o-Terphenyl (S)	%	13		2

LABORATORY CONTROL SAMPLE: 922301940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Aliphatic (C09-C18)	ug/l	300.00	147.0	49	
Aliphatic (C19-C36)	ug/l	400.00	268.8	67	
Aromatic (C11-22)	ug/l	850.00	756.8	89	
2-Fluorobiphenyl (S)				82	
2-Bromonaphthalene (S)				44	
Nonatriacontane (S)				103	
o-Terphenyl (S)				103	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57746 Analysis Method: EPA 601/602
QC Batch Method: EPA 601/602 Analysis Description: Halogen. & Aromatic Vol. Orgs.
Associated Lab Samples: 922276209

METHOD BLANK: 922279849
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Dichlorodifluoromethane	ug/l	ND	1.0	
Chloromethane	ug/l	ND	2.0	
Vinyl chloride	ug/l	ND	1.0	
Bromomethane	ug/l	ND	1.0	
Chloroethane	ug/l	ND	1.0	
Trichlorofluoromethane	ug/l	ND	1.0	
1,1-Dichloroethene	ug/l	ND	1.0	
Methylene chloride	ug/l	ND	2.0	
trans-1,2-Dichloroethene	ug/l	ND	1.0	
1,1-Dichloroethane	ug/l	ND	1.0	
Chloroform	ug/l	ND	1.0	
1,1,1-Trichloroethane	ug/l	ND	1.0	
Carbon tetrachloride	ug/l	ND	1.0	
1,2-Dichloroethane	ug/l	ND	1.0	
Trichloroethene	ug/l	ND	1.0	
1,2-Dichloropropane	ug/l	ND	1.0	
Bromodichloromethane	ug/l	ND	1.0	
cis-1,3-Dichloropropene	ug/l	ND	1.0	
trans-1,3-Dichloropropene	ug/l	ND	1.0	
1,1,2-Trichloroethane	ug/l	ND	1.0	
Tetrachloroethene	ug/l	ND	1.0	
Dibromochloromethane	ug/l	ND	1.0	
Bromoform	ug/l	ND	1.0	
1,1,2,2-Tetrachloroethane	ug/l	ND	1.0	
Methyl-tert-butyl ether	ug/l	ND	1.0	
Diisopropyl ether	ug/l	ND	1.0	
Benzene	ug/l	ND	1.0	
Toluene	ug/l	ND	1.0	
Chlorobenzene	ug/l	ND	1.0	
Ethylbenzene	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	1.0	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

METHOD BLANK: 922279849
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
o-Xylene	ug/l	ND	1.0	
1,3-Dichlorobenzene	ug/l	ND	1.0	
1,4-Dichlorobenzene	ug/l	ND	1.0	
1,2-Dichlorobenzene	ug/l	ND	1.0	
1-Chloro-3-fluorobenzene (S)	%	99		

LABORATORY CONTROL SAMPLE & LCSD: 922279856 922279864

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Dichlorodifluoromethane	ug/l	20.00	25.25	23.00	126	115	9	
Chloromethane	ug/l	20.00	22.10	20.45	110	102	8	
Vinyl chloride	ug/l	20.00	23.84	21.81	119	109	9	
Bromomethane	ug/l	20.00	19.78	18.35	99	92	7	
Chloroethane	ug/l	20.00	24.10	21.72	121	109	10	
Trichlorofluoromethane	ug/l	20.00	23.98	21.99	120	110	9	
1,1-Dichloroethene	ug/l	20.00	21.67	22.18	108	111	2	
Methylene chloride	ug/l	20.00	22.95	21.32	115	107	7	
trans-1,2-Dichloroethene	ug/l	20.00	23.19	21.74	116	109	6	
1,1-Dichloroethane	ug/l	20.00	23.33	21.28	117	106	9	
Chloroform	ug/l	20.00	21.79	20.18	109	101	8	
1,1,1-Trichloroethane	ug/l	20.00	23.57	21.73	118	109	8	
Carbon tetrachloride	ug/l	20.00	23.38	21.83	117	109	7	
1,2-Dichloroethane	ug/l	20.00	23.02	21.53	115	108	7	
Trichloroethene	ug/l	20.00	23.08	22.43	115	112	3	
1,2-Dichloropropane	ug/l	20.00	23.56	21.96	118	110	7	
Bromodichloromethane	ug/l	20.00	23.43	22.19	117	111	5	
cis-1,3-Dichloropropene	ug/l	20.00	20.94	19.70	105	98	6	
trans-1,3-Dichloropropene	ug/l	20.00	21.62	20.55	108	103	5	
1,1,2-Trichloroethane	ug/l	20.00	22.81	21.66	114	108	5	
Tetrachloroethene	ug/l	20.00	23.01	21.33	115	107	8	
Dibromochloromethane	ug/l	20.00	22.75	21.09	114	105	8	
Bromoform	ug/l	20.00	22.51	21.31	113	107	5	
1,1,2,2-Tetrachloroethane	ug/l	20.00	22.49	19.90	112	100	12	
Methyl-tert-butyl ether	ug/l	20.00	19.26	20.30	96	101	5	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE & LCSD: 922279856 922279864

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Diisopropyl ether	ug/l	20.00	19.71	19.90	98	100	1	
Benzene	ug/l	20.00	20.11	19.76	101	99	2	
Toluene	ug/l	20.00	20.61	21.06	103	105	2	
Chlorobenzene	ug/l	20.00	22.57	21.06	113	105	7	
Ethylbenzene	ug/l	20.00	21.51	20.93	108	105	3	
m&p-Xylene	ug/l	40.00	43.07	42.02	108	105	2	
o-Xylene	ug/l	20.00	19.97	19.46	100	97	3	
1,3-Dichlorobenzene	ug/l	20.00	23.22	21.92	116	110	6	
1,4-Dichlorobenzene	ug/l	20.00	22.92	21.56	115	108	6	
1,2-Dichlorobenzene	ug/l	20.00	22.22	21.89	111	109	1	
1-Chloro-3-fluorobenzene (S)					108	97		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57770 Analysis Method: VPH
QC Batch Method: VPH Analysis Description: VPH in Water by Mass. Method
Associated Lab Samples: 922276209

METHOD BLANK: 922280458
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Aliphatic (C05-C08)	ug/l	ND	100	
Aliphatic (C09-C12)	ug/l	ND	100	
Aromatic (C09-C10)	ug/l	ND	100	
2,5-Dibromotoluene (FID)(S)	%	98		
2,5-Dibromotoluene (PID)(S)	%	97		

LABORATORY CONTROL SAMPLE & LCSD: 922280466 922280474

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Aliphatic (C05-C08)	ug/l	160.00	132.1	136.9	83	86	4	
Aliphatic (C09-C12)	ug/l	40.00	26.55	28.89	66	72	8	2
Aromatic (C09-C10)	ug/l	40.00	47.98	38.08	120	95	23	
2,5-Dibromotoluene (FID)(S)					108	99		
2,5-Dibromotoluene (PID)(S)					91	116		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57893 Analysis Method: VPH
QC Batch Method: VPH Analysis Description: VPH in Soil by Mass. Method
Associated Lab Samples: 922276183

METHOD BLANK: 922286810
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Aliphatic (C05-C08)	mg/kg	ND	10.	
Aliphatic (C09-C12)	mg/kg	ND	10.	
Aromatic (C09-C10)	mg/kg	ND	10.	
2,5-Dibromotoluene (FID)(S)	%	97		
2,5-Dibromotoluene (PID)(S)	%	115		

LABORATORY CONTROL SAMPLE & LCSD: 922286828 922286836

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Aliphatic (C05-C08)	mg/kg	8.000	10.04	9.442	125	118	6	
Aliphatic (C09-C12)	mg/kg	2.000	2.023	2.287	101	114	12	
Aromatic (C09-C10)	mg/kg	2.000	1.722	2.093	86	105	19	
2,5-Dibromotoluene (FID)(S)					93	127		
2,5-Dibromotoluene (PID)(S)					97	98		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57807
QC Batch Method: EPA 3550
Associated Lab Samples: 922276183

Analysis Method: EPA 8270
Analysis Description: Semivolatile Organics

METHOD BLANK: 922282017
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acenaphthene	ug/kg	ND	330	
Acenaphthylene	ug/kg	ND	330	
Anthracene	ug/kg	ND	330	
Benzo(a)anthracene	ug/kg	ND	330	
Benzo(a)pyrene	ug/kg	ND	330	
Benzo(b)fluoranthene	ug/kg	ND	330	
Benzo(g,h,i)perylene	ug/kg	ND	330	
Benzo(k)fluoranthene	ug/kg	ND	330	
Benzoic acid	ug/kg	ND	1600	
Benzyl alcohol	ug/kg	ND	660	
4-Bromophenylphenyl ether	ug/kg	ND	330	
Butylbenzylphthalate	ug/kg	ND	330	
4-Chloro-3-methylphenol	ug/kg	ND	660	
4-Chloroaniline	ug/kg	ND	660	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	
bis(2-Chloroethyl) ether	ug/kg	ND	330	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	
2-Chloronaphthalene	ug/kg	ND	330	
2-Chlorophenol	ug/kg	ND	330	
4-Chlorophenylphenyl ether	ug/kg	ND	330	
Chrysene	ug/kg	ND	330	
Dibenz(a,h)anthracene	ug/kg	ND	330	
Dibenzofuran	ug/kg	ND	330	
1,2-Dichlorobenzene	ug/kg	ND	330	
1,3-Dichlorobenzene	ug/kg	ND	330	
1,4-Dichlorobenzene	ug/kg	ND	330	
3,3'-Dichlorobenzidine	ug/kg	ND	660	
2,4-Dichlorophenol	ug/kg	ND	330	
Diethylphthalate	ug/kg	ND	330	
2,4-Dimethylphenol	ug/kg	ND	330	
Dimethylphthalate	ug/kg	ND	330	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

METHOD BLANK: 922282017
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Di-n-butylphthalate	ug/kg	ND	330	
4,6-Dinitro-2-methylphenol	ug/kg	ND	330	
2,4-Dinitrophenol	ug/kg	ND	1600	
2,4-Dinitrotoluene	ug/kg	ND	330	
2,6-Dinitrotoluene	ug/kg	ND	330	
Di-n-octylphthalate	ug/kg	ND	330	
1,2-Diphenylhydrazine	ug/kg	ND	330	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	
Fluoranthene	ug/kg	ND	330	
Fluorene	ug/kg	ND	330	
Hexachloro-1,3-butadiene	ug/kg	ND	330	
Hexachlorobenzene	ug/kg	ND	330	
Hexachlorocyclopentadiene	ug/kg	ND	330	
Hexachloroethane	ug/kg	ND	330	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	
Isophorone	ug/kg	ND	330	
2-Methylnaphthalene	ug/kg	ND	330	
2-Methylphenol (o-Cresol)	ug/kg	ND	330	
3&4-Methylphenol	ug/kg	ND	330	
Naphthalene	ug/kg	ND	330	
2-Nitroaniline	ug/kg	ND	1600	
3-Nitroaniline	ug/kg	ND	1600	
4-Nitroaniline	ug/kg	ND	1600	
Nitrobenzene	ug/kg	ND	330	
2-Nitrophenol	ug/kg	ND	330	
4-Nitrophenol	ug/kg	ND	1600	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	
N-Nitrosodiphenylamine	ug/kg	ND	330	
Pentachlorophenol	ug/kg	ND	1600	
Phenanthrene	ug/kg	ND	330	
Phenol	ug/kg	ND	330	
Pyrene	ug/kg	ND	330	
1,2,4-Trichlorobenzene	ug/kg	ND	330	
2,4,5-Trichlorophenol	ug/kg	ND	330	
2,4,6-Trichlorophenol	ug/kg	ND	330	
Nitrobenzene-d5 (S)	%	71		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

METHOD BLANK: 922282017
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2-Fluorobiphenyl (S)	%	77		
Terphenyl-d14 (S)	%	84		
Phenol-d5 (S)	%	66		
2-Fluorophenol (S)	%	62		
2,4,6-Tribromophenol (S)	%	79		

LABORATORY CONTROL SAMPLE: 922282058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acenaphthene	ug/kg	1667.00	1255	75	
Acenaphthylene	ug/kg	1667.00	1268	76	
Anthracene	ug/kg	1667.00	1380	83	
Benzo(a)anthracene	ug/kg	1667.00	1308	78	
Benzo(a)pyrene	ug/kg	1667.00	1392	84	
Benzo(b)fluoranthene	ug/kg	1667.00	1339	80	
Benzo(g,h,i)perylene	ug/kg	1667.00	1157	69	
Benzo(k)fluoranthene	ug/kg	1667.00	1380	83	
Benzoic acid	ug/kg	1667.00	131.0	8	
Benzyl alcohol	ug/kg	1667.00	1269	76	
4-Bromophenylphenyl ether	ug/kg	1667.00	1405	84	
Butylbenzylphthalate	ug/kg	1667.00	1298	78	
4-Chloro-3-methylphenol	ug/kg	1667.00	1283	77	
4-Chloroaniline	ug/kg	1667.00	1154	69	
bis(2-Chloroethoxy)methane	ug/kg	1667.00	1218	73	
bis(2-Chloroethyl) ether	ug/kg	1667.00	1131	68	
bis(2-Chloroisopropyl) ether	ug/kg	1667.00	1142	68	
2-Chloronaphthalene	ug/kg	1667.00	1244	75	
2-Chlorophenol	ug/kg	1667.00	1126	68	
4-Chlorophenylphenyl ether	ug/kg	1667.00	1322	79	
Chrysene	ug/kg	1667.00	1313	79	
Dibenz(a,h)anthracene	ug/kg	1667.00	1281	77	
Dibenzofuran	ug/kg	1667.00	1284	77	
1,2-Dichlorobenzene	ug/kg	1667.00	1167	70	
1,3-Dichlorobenzene	ug/kg	1667.00	1153	69	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE: 922282058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
1,4-Dichlorobenzene	ug/kg	1667.00	1108	66	
3,3'-Dichlorobenzidine	ug/kg	3333.00	1884	56	
2,4-Dichlorophenol	ug/kg	1667.00	1199	72	
Diethylphthalate	ug/kg	1667.00	1359	82	
2,4-Dimethylphenol	ug/kg	1667.00	1108	66	
Dimethylphthalate	ug/kg	1667.00	1328	80	
Di-n-butylphthalate	ug/kg	1667.00	1379	83	
4,6-Dinitro-2-methylphenol	ug/kg	1667.00	927.5	56	
2,4-Dinitrophenol	ug/kg	1667.00	412.8	25	
2,4-Dinitrotoluene	ug/kg	1667.00	1388	83	
2,6-Dinitrotoluene	ug/kg	1667.00	1337	80	
Di-n-octylphthalate	ug/kg	1667.00	1407	84	
1,2-Diphenylhydrazine	ug/kg	1667.00	1299	78	
bis(2-Ethylhexyl)phthalate	ug/kg	1667.00	1326	80	
Fluoranthene	ug/kg	1667.00	1357	81	
Fluorene	ug/kg	1667.00	1306	78	
Hexachloro-1,3-butadiene	ug/kg	1667.00	1283	77	
Hexachlorobenzene	ug/kg	1667.00	1396	84	
Hexachlorocyclopentadiene	ug/kg	1667.00	1301	78	
Hexachloroethane	ug/kg	1667.00	1124	67	
Indeno(1,2,3-cd)pyrene	ug/kg	1667.00	1248	75	
Isophorone	ug/kg	1667.00	1255	75	
2-Methylnaphthalene	ug/kg	1667.00	1223	73	
2-Methylphenol (o-Cresol)	ug/kg	1667.00	1187	71	
3&4-Methylphenol	ug/kg	1667.00	1162	70	
Naphthalene	ug/kg	1667.00	1188	71	
2-Nitroaniline	ug/kg	1667.00	1313	79	
3-Nitroaniline	ug/kg	1667.00	1313	79	
4-Nitroaniline	ug/kg	1667.00	1246	75	
Nitrobenzene	ug/kg	1667.00	1177	71	
2-Nitrophenol	ug/kg	1667.00	1184	71	
4-Nitrophenol	ug/kg	1667.00	1096	66	
N-Nitroso-di-n-propylamine	ug/kg	1667.00	1226	74	
N-Nitrosodiphenylamine	ug/kg	1667.00	1290	77	
Pentachlorophenol	ug/kg	1667.00	1005	60	
Phenanthrene	ug/kg	1667.00	1327	80	
Phenol	ug/kg	1667.00	1094	66	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE: 922282058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Pyrene	ug/kg	1667.00	1228	74	
1,2,4-Trichlorobenzene	ug/kg	1667.00	1205	72	
2,4,5-Trichlorophenol	ug/kg	1667.00	1176	71	
2,4,6-Trichlorophenol	ug/kg	1667.00	1188	71	
Nitrobenzene-d5 (S)				72	
2-Fluorobiphenyl (S)				74	
Terphenyl-d14 (S)				85	
Phenol-d5 (S)				66	
2-Fluorophenol (S)				61	
2,4,6-Tribromophenol (S)				85	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922282025 922282033

Parameter	Units	931221543 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Acenaphthene	ug/kg	1645	2571.00	6230	3573	178	75	54	2,3
4-Chloro-3-methylphenol	ug/kg	0	2571.00	2965	2276	115	88	26	
2-Chlorophenol	ug/kg	0	2571.00	2006	1759	78	68	13	
1,4-Dichlorobenzene	ug/kg	0	2571.00	2296	1790	89	70	25	
2,4-Dinitrotoluene	ug/kg	0	2571.00	3906	1771	152	69	75	4,3
4-Nitrophenol	ug/kg	0	2571.00	13490	3373	525	131	120	4
N-Nitroso-di-n-propylamine	ug/kg	0	2571.00	3197	2410	124	94	28	
Pentachlorophenol	ug/kg	0	2571.00	1617	1371	63	53	16	
Phenol	ug/kg	0	2571.00	2150	1911	84	74	12	
Pyrene	ug/kg	807.4	2571.00	3893	2410	120	62	47	3
1,2,4-Trichlorobenzene	ug/kg	0	2571.00	2518	1971	98	77	24	
Nitrobenzene-d5 (S)						241	165		2,5
2-Fluorobiphenyl (S)						102	75		
Terphenyl-d14 (S)						93	76		
Phenol-d5 (S)						84	73		
2-Fluorophenol (S)						71	63		
2,4,6-Tribromophenol (S)						94	75		2

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

SAMPLE DUPLICATE: 922282041

Parameter	Units	931221576 Result	DUP Result	RPD	Footnotes
Acenaphthene	ug/kg	ND	ND	NC	
Acenaphthylene	ug/kg	ND	ND	NC	
Anthracene	ug/kg	ND	ND	NC	
Benzo(a)anthracene	ug/kg	ND	ND	NC	
Benzo(a)pyrene	ug/kg	ND	ND	NC	
Benzo(b)fluoranthene	ug/kg	ND	ND	NC	
Benzo(g,h,i)perylene	ug/kg	ND	ND	NC	
Benzo(k)fluoranthene	ug/kg	ND	ND	NC	
Benzoic acid	ug/kg	ND	ND	NC	
Benzyl alcohol	ug/kg	ND	ND	NC	
4-Bromophenylphenyl ether	ug/kg	ND	ND	NC	
Butylbenzylphthalate	ug/kg	ND	ND	NC	
4-Chloro-3-methylphenol	ug/kg	ND	ND	NC	
4-Chloroaniline	ug/kg	ND	ND	NC	
bis(2-Chloroethoxy)methane	ug/kg	ND	ND	NC	
bis(2-Chloroethyl) ether	ug/kg	ND	ND	NC	
bis(2-Chloroisopropyl) ether	ug/kg	ND	ND	NC	
2-Chloronaphthalene	ug/kg	ND	ND	NC	
2-Chlorophenol	ug/kg	ND	ND	NC	
4-Chlorophenylphenyl ether	ug/kg	ND	ND	NC	
Chrysene	ug/kg	ND	ND	NC	
Dibenz(a,h)anthracene	ug/kg	ND	ND	NC	
Dibenzofuran	ug/kg	ND	ND	NC	
1,2-Dichlorobenzene	ug/kg	ND	ND	NC	
1,3-Dichlorobenzene	ug/kg	ND	ND	NC	
1,4-Dichlorobenzene	ug/kg	ND	ND	NC	
3,3'-Dichlorobenzidine	ug/kg	ND	ND	NC	
2,4-Dichlorophenol	ug/kg	ND	ND	NC	
Diethylphthalate	ug/kg	ND	ND	NC	
2,4-Dimethylphenol	ug/kg	ND	ND	NC	
Dimethylphthalate	ug/kg	ND	ND	NC	
Di-n-butylphthalate	ug/kg	ND	ND	NC	
4,6-Dinitro-2-methylphenol	ug/kg	ND	ND	NC	
2,4-Dinitrophenol	ug/kg	ND	ND	NC	
2,4-Dinitrotoluene	ug/kg	ND	ND	NC	
2,6-Dinitrotoluene	ug/kg	ND	ND	NC	
Di-n-octylphthalate	ug/kg	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

SAMPLE DUPLICATE: 922282041

Parameter	Units	931221576 Result	DUP Result	RPD	Footnotes
1,2-Diphenylhydrazine	ug/kg	ND	ND	NC	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	ND	NC	
Fluoranthene	ug/kg	ND	ND	NC	
Fluorene	ug/kg	490.0	ND	NC	
Hexachloro-1,3-butadiene	ug/kg	ND	ND	NC	
Hexachlorobenzene	ug/kg	ND	ND	NC	
Hexachlorocyclopentadiene	ug/kg	ND	ND	NC	
Hexachloroethane	ug/kg	ND	ND	NC	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	ND	NC	
Isophorone	ug/kg	ND	ND	NC	
2-Methylnaphthalene	ug/kg	3700	2900	24	
2-Methylphenol (o-Cresol)	ug/kg	ND	ND	NC	
3&4-Methylphenol	ug/kg	ND	ND	NC	
Naphthalene	ug/kg	700.0	560.0	23	
2-Nitroaniline	ug/kg	ND	ND	NC	
3-Nitroaniline	ug/kg	ND	ND	NC	
4-Nitroaniline	ug/kg	ND	ND	NC	
Nitrobenzene	ug/kg	ND	ND	NC	
2-Nitrophenol	ug/kg	ND	ND	NC	
4-Nitrophenol	ug/kg	ND	ND	NC	
N-Nitroso-di-n-propylamine	ug/kg	ND	ND	NC	
N-Nitrosodiphenylamine	ug/kg	ND	ND	NC	
Pentachlorophenol	ug/kg	ND	ND	NC	
Phenanthrene	ug/kg	940.0	740.0	23	
Phenol	ug/kg	ND	ND	NC	
Pyrene	ug/kg	ND	ND	NC	
1,2,4-Trichlorobenzene	ug/kg	ND	ND	NC	
2,4,5-Trichlorophenol	ug/kg	ND	ND	NC	
2,4,6-Trichlorophenol	ug/kg	ND	ND	NC	
Nitrobenzene-d5 (S)	%	90	89		
2-Fluorobiphenyl (S)	%	73	70		
Terphenyl-d14 (S)	%	84	64		
Phenol-d5 (S)	%	73	68		
2-Fluorophenol (S)	%	67	66		
2,4,6-Tribromophenol (S)	%	95	84		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57832 Analysis Method: EPA 625
QC Batch Method: EPA 625 SF Analysis Description: Extractables in Water by 625
Associated Lab Samples: 922276209

METHOD BLANK: 922283452
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
N-Nitrosodimethylamine	ug/l	ND	5.0	
bis(2-Chloroethyl) ether	ug/l	ND	5.0	
Phenol	ug/l	ND	5.0	
2-Chlorophenol	ug/l	ND	5.0	
1,3-Dichlorobenzene	ug/l	ND	5.0	
1,4-Dichlorobenzene	ug/l	ND	5.0	
1,2-Dichlorobenzene	ug/l	ND	5.0	
bis(2-Chloroisopropyl) ether	ug/l	ND	5.0	
Hexachloroethane	ug/l	ND	5.0	
N-Nitroso-di-n-propylamine	ug/l	ND	5.0	
Nitrobenzene	ug/l	ND	5.0	
Isophorone	ug/l	ND	5.0	
2-Nitrophenol	ug/l	ND	5.0	
2,4-Dimethylphenol	ug/l	ND	5.0	
bis(2-Chloroethoxy)methane	ug/l	ND	5.0	
2,4-Dichlorophenol	ug/l	ND	5.0	
1,2,4-Trichlorobenzene	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Hexachloro-1,3-butadiene	ug/l	ND	5.0	
4-Chloro-3-methylphenol	ug/l	ND	5.0	
Hexachlorocyclopentadiene	ug/l	ND	10.	
2,4,6-Trichlorophenol	ug/l	ND	5.0	
2-Chloronaphthalene	ug/l	ND	5.0	
Acenaphthylene	ug/l	ND	5.0	
Dimethylphthalate	ug/l	ND	5.0	
2,6-Dinitrotoluene	ug/l	ND	5.0	
Acenaphthene	ug/l	ND	5.0	
2,4-Dinitrophenol	ug/l	ND	25.	
2,4-Dinitrotoluene	ug/l	ND	5.0	
4-Nitrophenol	ug/l	ND	25.	
Fluorene	ug/l	ND	5.0	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

METHOD BLANK: 922283452
Associated Lab Samples: 922276209

Parameter	Units	Blank Result	Reporting Limit	Footnotes
4-Chlorophenylphenyl ether	ug/l	ND	5.0	
Diethylphthalate	ug/l	ND	5.0	
4,6-Dinitro-2-methylphenol	ug/l	ND	25.	
N-Nitrosodiphenylamine	ug/l	ND	5.0	
4-Bromophenylphenyl ether	ug/l	ND	5.0	
Hexachlorobenzene	ug/l	ND	5.0	
Pentachlorophenol	ug/l	ND	25.	
Phenanthrene	ug/l	ND	5.0	
Anthracene	ug/l	ND	5.0	
Di-n-butylphthalate	ug/l	ND	5.0	
Fluoranthene	ug/l	ND	5.0	
Benzidine	ug/l	ND	50.	
Pyrene	ug/l	ND	5.0	
Butylbenzylphthalate	ug/l	ND	5.0	
3,3'-Dichlorobenzidine	ug/l	ND	10.	
Benzo(a)anthracene	ug/l	ND	5.0	
Chrysene	ug/l	ND	5.0	
bis(2-Ethylhexyl)phthalate	ug/l	ND	5.0	
Di-n-octylphthalate	ug/l	ND	5.0	
Benzo(b)fluoranthene	ug/l	ND	5.0	
Benzo(k)fluoranthene	ug/l	ND	5.0	
Benzo(a)pyrene	ug/l	ND	5.0	
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0	
Dibenz(a,h)anthracene	ug/l	ND	5.0	
Benzo(g,h,i)perylene	ug/l	ND	5.0	
Nitrobenzene-d5 (S)	%	80		
2-Fluorobiphenyl (S)	%	85		
Terphenyl-d14 (S)	%	90		
Phenol-d5 (S)	%	28		
2-Fluorophenol (S)	%	42		
2,4,6-Tribromophenol (S)	%	97		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE & LCSD: 922283460 922283478

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
N-Nitrosodimethylamine	ug/l	50.00	20.56	19.69	41	39	4	
bis(2-Chloroethyl) ether	ug/l	50.00	73.23	88.64	146	177	19	4
Phenol	ug/l	50.00	16.63	15.16	33	30	9	
2-Chlorophenol	ug/l	50.00	33.90	37.41	68	75	10	
1,3-Dichlorobenzene	ug/l	50.00	31.19	37.66	62	75	19	
1,4-Dichlorobenzene	ug/l	50.00	30.00	38.59	60	77	25	
1,2-Dichlorobenzene	ug/l	50.00	31.17	39.21	62	78	23	
bis(2-Chloroisopropyl) ether	ug/l	50.00	31.88	38.28	64	77	18	
Hexachloroethane	ug/l	50.00	29.74	38.02	60	76	24	
N-Nitroso-di-n-propylamine	ug/l	50.00	33.77	40.92	68	82	19	
Nitrobenzene	ug/l	50.00	31.89	39.33	64	79	21	
Isophorone	ug/l	50.00	35.13	41.95	70	84	18	
2-Nitrophenol	ug/l	50.00	38.67	43.78	77	88	12	
2,4-Dimethylphenol	ug/l	50.00	35.82	37.57	72	75	5	
bis(2-Chloroethoxy)methane	ug/l	50.00	34.22	41.01	68	82	18	
2,4-Dichlorophenol	ug/l	50.00	38.43	42.18	77	84	9	
1,2,4-Trichlorobenzene	ug/l	50.00	31.71	39.08	63	78	21	
Naphthalene	ug/l	50.00	32.06	39.26	64	78	20	
Hexachloro-1,3-butadiene	ug/l	50.00	31.70	39.52	63	79	22	
4-Chloro-3-methylphenol	ug/l	50.00	38.66	39.03	77	78	1	
Hexachlorocyclopentadiene	ug/l	50.00	20.67	24.56	41	49	17	
2,4,6-Trichlorophenol	ug/l	50.00	41.44	45.79	83	92	10	
2-Chloronaphthalene	ug/l	50.00	35.17	42.34	70	85	19	
Acenaphthylene	ug/l	50.00	36.14	42.99	72	86	17	
Dimethylphthalate	ug/l	50.00	36.83	34.46	74	69	7	
2,6-Dinitrotoluene	ug/l	50.00	40.32	46.72	81	93	15	
Acenaphthene	ug/l	50.00	35.42	41.62	71	83	16	
2,4-Dinitrophenol	ug/l	50.00	42.98	43.10	86	86	0	
2,4-Dinitrotoluene	ug/l	50.00	42.55	47.35	85	95	11	
4-Nitrophenol	ug/l	50.00	21.76	17.11	44	34	24	
Fluorene	ug/l	50.00	40.96	46.30	82	93	12	
4-Chlorophenylphenyl ether	ug/l	50.00	38.40	43.95	77	88	13	
Diethylphthalate	ug/l	50.00	39.77	41.33	80	83	4	
4,6-Dinitro-2-methylphenol	ug/l	50.00	54.90	56.11	110	112	2	
N-Nitrosodiphenylamine	ug/l	50.00	41.17	45.77	82	92	11	
4-Bromophenylphenyl ether	ug/l	50.00	40.19	45.22	80	90	12	
Hexachlorobenzene	ug/l	50.00	40.79	44.20	82	88	8	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE & LCSD: 922283460 922283478

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Pentachlorophenol	ug/l	50.00	53.80	54.34	108	109	1	
Phenanthrene	ug/l	50.00	39.12	43.28	78	87	10	
Anthracene	ug/l	50.00	42.21	45.89	84	92	8	
Di-n-butylphthalate	ug/l	50.00	40.84	43.93	82	88	7	
Fluoranthene	ug/l	50.00	39.66	44.95	79	90	13	
Benzidine	ug/l	100.00	1327	1499	1330	1500	12	4,4
Pyrene	ug/l	50.00	39.05	41.96	78	84	7	
Butylbenzylphthalate	ug/l	50.00	39.71	40.78	79	82	3	
3,3'-Dichlorobenzidine	ug/l	100.00	100.3	113.9	100	114	13	
Benzo(a)anthracene	ug/l	50.00	40.67	43.40	81	87	6	
Chrysene	ug/l	50.00	41.80	44.06	84	88	5	
bis(2-Ethylhexyl)phthalate	ug/l	50.00	39.97	40.78	80	82	2	
Di-n-octylphthalate	ug/l	50.00	43.97	44.07	88	88	0	
Benzo(b)fluoranthene	ug/l	50.00	43.63	46.72	87	93	7	
Benzo(k)fluoranthene	ug/l	50.00	40.50	42.32	81	85	4	
Benzo(a)pyrene	ug/l	50.00	43.99	46.48	88	93	6	
Indeno(1,2,3-cd)pyrene	ug/l	50.00	39.68	42.14	79	84	6	
Dibenz(a,h)anthracene	ug/l	50.00	41.10	43.88	82	88	7	
Benzo(g,h,i)perylene	ug/l	50.00	37.49	39.30	75	79	5	
Nitrobenzene-d5 (S)					64	83		
2-Fluorobiphenyl (S)					70	86		
Terphenyl-d14 (S)					88	94		
Phenol-d5 (S)					31	30		
2-Fluorophenol (S)					43	44		
2,4,6-Tribromophenol (S)					89	96		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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VA Drinking Water 213
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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57927
QC Batch Method: EPA 8260
Associated Lab Samples: 922276183

Analysis Method: EPA 8260
Analysis Description: GC/MS VOCs 5035/8260 low level

METHOD BLANK: 922288311
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/kg	ND	5.0	
Bromobenzene	ug/kg	ND	5.0	
Bromochloromethane	ug/kg	ND	5.0	
Bromodichloromethane	ug/kg	ND	5.0	
Bromoform	ug/kg	ND	5.0	
Bromomethane	ug/kg	ND	10.	
n-Butylbenzene	ug/kg	ND	5.0	
sec-Butylbenzene	ug/kg	ND	5.0	
tert-Butylbenzene	ug/kg	ND	5.0	
Carbon tetrachloride	ug/kg	ND	5.0	
Chlorobenzene	ug/kg	ND	5.0	
Chloroethane	ug/kg	ND	10.	
Chloroform	ug/kg	ND	5.0	
Chloromethane	ug/kg	ND	10.	
2-Chlorotoluene	ug/kg	ND	5.0	
4-Chlorotoluene	ug/kg	ND	5.0	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.0	
Dibromochloromethane	ug/kg	ND	5.0	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	
Dibromomethane	ug/kg	ND	5.0	
1,2-Dichlorobenzene	ug/kg	ND	5.0	
1,3-Dichlorobenzene	ug/kg	ND	5.0	
1,4-Dichlorobenzene	ug/kg	ND	5.0	
Dichlorodifluoromethane	ug/kg	ND	10.	
1,1-Dichloroethane	ug/kg	ND	5.0	
1,2-Dichloroethane	ug/kg	ND	5.0	
1,1-Dichloroethene	ug/kg	ND	5.0	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	
1,2-Dichloropropane	ug/kg	ND	5.0	
1,3-Dichloropropane	ug/kg	ND	5.0	

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

METHOD BLANK: 922288311
Associated Lab Samples: 922276183

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2,2-Dichloropropane	ug/kg	ND	5.0	
1,1-Dichloropropene	ug/kg	ND	5.0	
Diisopropyl ether	ug/kg	ND	5.0	
Ethylbenzene	ug/kg	ND	5.0	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	
p-Isopropyltoluene	ug/kg	ND	5.0	
Methylene chloride	ug/kg	ND	5.0	
Methyl-tert-butyl ether	ug/kg	ND	5.0	
Naphthalene	ug/kg	ND	5.0	
n-Propylbenzene	ug/kg	ND	5.0	
Styrene	ug/kg	ND	5.0	
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	
Tetrachloroethene	ug/kg	ND	5.0	
Toluene	ug/kg	ND	5.0	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	
1,1,1-Trichloroethane	ug/kg	ND	5.0	
1,1,2-Trichloroethane	ug/kg	ND	5.0	
Trichloroethene	ug/kg	ND	5.0	
Trichlorofluoromethane	ug/kg	ND	5.0	
1,2,3-Trichloropropane	ug/kg	ND	5.0	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	
Vinyl chloride	ug/kg	ND	10.	
m&p-Xylene	ug/kg	ND	10.	
o-Xylene	ug/kg	ND	5.0	
Toluene-d8 (S)	%	100		
4-Bromofluorobenzene (S)	%	98		
Dibromofluoromethane (S)	%	98		
1,2-Dichloroethane-d4 (S)	%	97		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE & LCSD: 922288329 922288337

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ug/kg	50.00	51.37	50.88	103	102	1	
Bromobenzene	ug/kg	50.00	54.21	51.91	108	104	4	
Bromochloromethane	ug/kg	50.00	50.74	50.79	101	102	0	
Bromodichloromethane	ug/kg	50.00	53.38	52.82	107	106	1	
Bromoform	ug/kg	50.00	53.82	54.17	108	108	1	
Bromomethane	ug/kg	50.00	40.15	44.17	80	88	10	
n-Butylbenzene	ug/kg	50.00	50.76	51.95	102	104	2	
sec-Butylbenzene	ug/kg	50.00	52.46	51.67	105	103	2	
tert-Butylbenzene	ug/kg	50.00	52.65	52.39	105	105	1	
Carbon tetrachloride	ug/kg	50.00	52.61	52.30	105	105	1	
Chlorobenzene	ug/kg	50.00	52.58	51.53	105	103	2	
Chloroethane	ug/kg	50.00	27.57	26.09	55	52	5	
Chloroform	ug/kg	50.00	50.96	50.50	102	101	1	
Chloromethane	ug/kg	50.00	38.56	39.16	77	78	2	
2-Chlorotoluene	ug/kg	50.00	47.71	53.29	95	107	11	
4-Chlorotoluene	ug/kg	50.00	51.06	50.33	102	101	1	
1,2-Dibromo-3-chloropropane	ug/kg	50.00	54.62	52.06	109	104	5	
Dibromochloromethane	ug/kg	50.00	54.22	53.57	108	107	1	
1,2-Dibromoethane (EDB)	ug/kg	50.00	52.01	51.35	104	103	1	
Dibromomethane	ug/kg	50.00	50.70	50.05	101	100	1	
1,2-Dichlorobenzene	ug/kg	50.00	52.05	51.15	104	102	2	
1,3-Dichlorobenzene	ug/kg	50.00	52.21	51.59	104	103	1	
1,4-Dichlorobenzene	ug/kg	50.00	50.33	49.81	101	100	1	
Dichlorodifluoromethane	ug/kg	50.00	51.61	51.36	103	103	0	
1,1-Dichloroethane	ug/kg	50.00	51.33	52.29	103	105	2	
1,2-Dichloroethane	ug/kg	50.00	50.96	51.38	102	103	1	
1,1-Dichloroethene	ug/kg	50.00	62.94	61.91	126	124	2	
cis-1,2-Dichloroethene	ug/kg	50.00	51.45	52.50	103	105	2	
trans-1,2-Dichloroethene	ug/kg	50.00	62.94	61.91	126	124	2	
1,2-Dichloropropane	ug/kg	50.00	51.33	50.58	103	101	1	
1,3-Dichloropropane	ug/kg	50.00	51.71	51.80	103	104	0	
2,2-Dichloropropane	ug/kg	50.00	51.04	52.02	102	104	2	
1,1-Dichloropropene	ug/kg	50.00	50.12	51.51	100	103	3	
Diisopropyl ether	ug/kg	50.00	50.45	51.79	101	104	3	
Ethylbenzene	ug/kg	50.00	52.70	52.12	105	104	1	
Hexachloro-1,3-butadiene	ug/kg	50.00	55.08	53.92	110	108	2	
Isopropylbenzene (Cumene)	ug/kg	50.00	52.58	52.38	105	105	0	

Date: 06/05/02

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

LABORATORY CONTROL SAMPLE & LCSD: 922288329 922288337

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
p-Isopropyltoluene	ug/kg	50.00	51.99	52.20	104	104	0	
Methylene chloride	ug/kg	50.00	48.72	48.60	97	97	0	
Methyl-tert-butyl ether	ug/kg	50.00	52.95	53.79	106	108	2	
Naphthalene	ug/kg	50.00	52.27	50.58	105	101	3	
n-Propylbenzene	ug/kg	50.00	52.41	51.35	105	103	2	
Styrene	ug/kg	50.00	52.80	52.75	106	106	0	
1,1,1,2-Tetrachloroethane	ug/kg	50.00	53.08	52.75	106	105	1	
1,1,2,2-Tetrachloroethane	ug/kg	50.00	52.28	52.43	105	105	0	
Tetrachloroethene	ug/kg	50.00	50.87	50.82	102	102	0	
Toluene	ug/kg	50.00	51.84	50.90	104	102	2	
1,2,3-Trichlorobenzene	ug/kg	50.00	54.93	51.70	110	103	6	
1,2,4-Trichlorobenzene	ug/kg	50.00	51.97	51.96	104	104	0	
1,1,1-Trichloroethane	ug/kg	50.00	52.47	51.56	105	103	2	
1,1,2-Trichloroethane	ug/kg	50.00	50.69	49.97	101	100	1	
Trichloroethene	ug/kg	50.00	51.59	51.12	103	102	1	
Trichlorofluoromethane	ug/kg	50.00	34.21	34.32	68	69	0	
1,2,3-Trichloropropane	ug/kg	50.00	51.70	52.27	103	105	1	
1,2,4-Trimethylbenzene	ug/kg	50.00	51.37	51.18	103	102	0	
1,3,5-Trimethylbenzene	ug/kg	50.00	51.67	51.37	103	103	1	
Vinyl chloride	ug/kg	50.00	40.49	42.71	81	85	5	
m&p-Xylene	ug/kg	100.00	104.3	102.2	104	102	2	
o-Xylene	ug/kg	50.00	52.31	52.13	105	104	0	
Toluene-d8 (S)					100	100		
4-Bromofluorobenzene (S)					100	102		
Dibromofluoromethane (S)					101	100		
1,2-Dichloroethane-d4 (S)					99	99		

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QUALITY CONTROL DATA

Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QC Batch: 57682 Analysis Method: % Moisture
QC Batch Method: Analysis Description: Percent Moisture
Associated Lab Samples: 922276183

SAMPLE DUPLICATE: 922276936

Parameter	Units	103553715 Result	DUP Result	RPD	Footnotes
Percent Moisture	%	0.1000	0.1000	12	

SAMPLE DUPLICATE: 922276944

Parameter	Units	922275649 Result	DUP Result	RPD	Footnotes
Percent Moisture	%	63.10	63.40	0	

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Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Poor sample recovery of aromatic fraction due to laboratory accident.
[2]	The surrogate and/or spike recovery was outside acceptance limits.
[3]	The calculated RPD was outside QC acceptance limits.
[4]	Recovery falls outside of QC limits, however, this compound is not found in the associated samples.
[5]	Base/neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Laboratory Certification IDs

NC Wastewater	12
NC Drinking Water	37706
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ACCREDITED IN ACCORDANCE WITH nelac

[redacted] Analytical Request Document

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

642461

Page: 1 of 1

Section A — Required Client Information:

Company: Cooper Environmental
Address: 3700 Sardis Rd. N.
Charlotte, NC 28227
Phone: 704-845-2000
Fax: 704-541-5901

Section B — Required Client Information:

Report To: Doug Pierotti
Copy To:
Invoice To: Cooper
P.O.:
Project Name: Coops-Vulcan
Project Number: 22135

Client Information (Check quote/contract):
Requested Due Date:
*TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

Section C — To Be Completed by Pace Analytical and Client

Quote Reference:
Project Manager: BK
Project #: 923014
Profile #: 623 - SL ~~623~~ 14, 107 - 16
Requested Analysis:

Section D — Required Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	624 + TICs	624	625	625 + TICs	8270	8270 + TICs	Remarks / Lab ID
1	SB-1 (5')	SL	05/20/22	10:00	6	3					2	1		X	X		X	X		92276183
2	MW-1	WT	05/20/22	11:45	8	2			6						X	X		X	X	limited VOAs
3																				92276209
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Doug Pierotti Cooper	5/20	845	[signature]	5/20	8:45
	[signature]	5/21	130	[signature]	5/21	130

SAMPLE CONDITION

Temp in °C	6
Received on Ice	(Y)/N
Sealed Cooler	Y/(N)
Samples Intact	(Y)/N

SAMPLE NOTES

8260 - 100
8270 - 220
VPH - 75
EPH - 130
601-602 - 100
625 + TICs - 220

RDX

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Doug Pierotti
SIGNATURE of SAMPLER: [signature]
DATE Signed: (MM / DD / YY) 5/20/22

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0601

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June 05, 2002

Mr. Doug Pierotti
Cooper Environmental, Inc.
2300 Sardis Road North
Suite Q
Charlotte, NC 28227

RE: Lab Project Number: 9233014
Client Project ID: Copes-Vulcan 22135

Dear Mr. Pierotti:

Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Bonnie Kamla

Bonnie Kamla
Bonnie.Kamla@pacelabs.com
Project Manager

Enclosures

Laboratory Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006

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KY Drinking Water	90090
VA Drinking Water	213
FL NELAP	E87627

Pace Analytical Services - Charlotte

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: COOPER
Lab Smp Id: 922276183
Operator : CMJ
Sample Location:
Sample Matrix: SOIL
Analysis Type: SV

Client SDG: 052702
Client Smp ID: SB-1(5')
Sample Date: 20-MAY-2002
Sample Point:
Date Received: 21-MAY-2002 00:00
Level: LOW

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Pace Analytical Services - Charlotte

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: COOPER
Lab Smp Id: 922276209
Operator : RPJ
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

Client SDG: 052402
Client Smp ID: MW-1
Sample Date: 20-MAY-2002
Sample Point:
Date Received: 21-MAY-2002 00:00
Level: LOW

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		C3 substituted benzene	5.627	24.6	J
2.		C3 substituted benzene	5.937	71.0	J
3.		C4 substituted benzene	6.071	11.1	J
4.		C4 substituted benzene	6.351	44.3	J
5.		C4 substituted benzene	6.411	37.1	J
6.		C4 substituted benzene	6.477	13.5	J
7.		C4 substituted benzene	6.595	26.6	J
8.		C4 substituted benzene	6.669	52.1	J
9.		Unknown	6.869	10.8	J
10.		C4 substituted benzene	6.943	15.3	J
11.		C4 substituted benzene	6.987	18.9	J
12.		Unknown	7.076	8.40	J
13.		Unknown	7.179	8.68	J
14.		Unknown	7.305	20.3	J
15.		Tetrahydronaphthalene isome	7.453	13.0	J
16.	91-57-6	Naphthalene, 2-methyl-	8.732	6.42	NJ
17.	90-12-0	Naphthalene, 1-methyl-	8.917	15.2	NJ
18.		C2 substituted napthalene	9.944	6.67	J
19.		C2 substituted napthalene	9.989	5.18	J
20.		Unknown	11.179	5.43	J