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July 21, 2006
VIA FEDEX

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JUL 21 2006

BUREAU OF
TECHNICAL SUPPORT

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Kelly A. Lewandowski, P.E.
Chief, Site Control Section
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, New York 12233-7020

**Re: Supplement to Petition Pursuant to 6 NYCRR Part 375 for
Modification of Registry Information for IBM-Kingston Site
Site Code 356002**

Dear Ms. Lewandowski:

This firm represents AG Properties of Kingston, LLC and Ulster Business Complex, LLC which are the current owners of the former IBM-Kingston Site, Site Code 356002, located in the Town of Ulster, Ulster County (the "Site" or the "Facility"). On June 19, 2006 we submitted for the Commissioner's consideration a Petition and supporting documents pursuant to 6 NYCRR-375-1.9 (the "Petition") to modify the boundary of the Site on the New York Registry of Inactive Hazardous Waste Disposal Sites.

Enclosed herewith in furtherance of the Petition is a supplement to our clients' Part 373 Permit Modification application.

We appreciate the Department's consideration of these documents and look forward to a favorable determination in the near future.

Thank you for your courtesy and consideration.

Very truly yours,

GREEN & SEIFTER, ATTORNEYS, PLLC

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‡‡‡ NOT FOR SERVICE OF PROCESS

DHZ/erb
Enclosures





Kelly A. Lewandowski, P.E.

July 21, 2006

Page 2

cc: AG Properties of Kingston, LLC
Attn: Alan Ginsberg (w/o enclosures)
Ulster Business Complex, LLC
Attn: Alan Ginsberg (w/o enclosures)
IBM Corporation
Attn: Mitchell Meyers (w/o enclosures)
Divney Tung & Schwalbe
Attn: Michael S. Ahern, P.E. (w/o enclosures)
New York State Department of Environmental Conservation
Attn: James H. Ferreira, Esq. (w/o enclosures)
Attn: Dale A. Desnoyers, Esq. (w/o enclosures)
Attn: Michael D. Merriman (w/o enclosures)
Attn: Gary D. Casper (w/o enclosures)



**SUPPLEMENT TO
POST-CLOSURE PERMIT MODIFICATION
FORMER INDUSTRIAL WASTE SLUDGE LAGOON
FORMER IBM KINGSTON, NEW YORK FACILITY
DEC Permit Number 7-5154-00067/00090
EPA ID Number NYD001359694**

Prepared For:

**AG Properties of Kingston, LLC
Kingston, NY**

**Ulster Business Complex, LLC
Kingston, NY**

July 20, 2006

Prepared By:

**Divney Tung Schwalbe, LLP
White Plains, NY**



July 20, 2006

Mr. Michael D. Merriman
Deputy Regional Permit Administrator
Division of Environmental Permits - Region 3
21 South Putt Corners Road
New Paltz, New York 12561-1696

Re: Part 373 Permit Boundary Modification Application for
DEC Permit No. 7-5154-00067/00090
EPA Identification No. NYD001359694

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JUL 24 2006

**BUREAU OF
TECHNICAL SUPPORT**

Dear Mr. Merriman:

On behalf of AG Properties of Kingston, LLC and Ulster Business Complex, LLC, we have enclosed three (3) copies of a supplement per recent informal comments from Gary Casper and your office regarding the proposed permit modification for IBM's former Kingston facility now known as TechCity. The supplement contains the following documents:

- Tab 1 – Short Environmental Assessment Form
- Tab 2 – Volatile Organic Compounds in Indoor Air (NYSDOH)
- Tab 3 – Indoor Air Quality Investigation (ERM)
- Tab 4 – Limited Phase II Environmental Site Assessment (ERM)
- Tab 5 – Preliminary Summary of the TechCity Site for Environmental Considerations (ENSR)
- Tab 6 – Focused Phase II Investigation (ENSR)

Please call me at (914) 428-0010 if you have any questions or require additional information.

Very truly yours,



Michael S. Ahern, P.E.
Associate

MSA:cek
Enclosures

cc: Gary Casper, NYSDEC Albany (w/1 enclosure)
James Reidy, EPA Region 2 (w/o enclosure)
Douglas Zamelis, Green & Seifter (w/6 enclosures)
Dean Chartrand, IBM (w/1 enclosure)
A. Ginsberg (w/1 enclosure)



**SUPPLEMENT TO
POST-CLOSURE PERMIT MODIFICATION
FORMER INDUSTRIAL WASTE SLUDGE LAGOON
FORMER IBM KINGSTON, NEW YORK FACILITY
DEC Permit Number 7-5154-00067/00090
EPA ID Number NYD001359694**

Prepared For:

**AG Properties of Kingston, LLC
Kingston, NY**

**Ulster Business Complex, LLC
Kingston, NY**

July 20, 2006

Prepared By:

**Divney Tung Schwalbe, LLP
White Plains, NY**



SUPPLEMENT TO
POST-CLOSURE PERMIT MODIFICATION
FORMER INDUSTRIAL WASTE SLUDGE LAGOON
FORMER IBM KINGSTON, NEW YORK FACILITY
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1999 and prepared by ENSR Consulting
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SUPPLEMENT TO
POST-CLOSURE PERMIT MODIFICATION
FORMER INDUSTRIAL WASTE SLUDGE LAGOON
FORMER IBM KINGSTON, NEW YORK FACILITY
DEC Permit Number 7-5154-00067/00090
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SUPPLEMENT TO
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FORMER INDUSTRIAL WASTE SLUDGE LAGOON
FORMER IBM KINGSTON, NEW YORK FACILITY
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Project I.D. Number
7-6164-00067/00090

6/7.20

SEQR

Appendix C

State Environmental Quality Review

SHORT ENVIRONMENTAL ASSESSMENT FORM

For UNLISTED ACTIONS Only

PART I - PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT/SPONSOR AG Properties of Kingston, LLC & Ulster Business Complex, LLC		2. PROJECT NAME TechCity (Formerly IBM-Kingston)	
3. PROJECT LOCATION: Municipality _____ Town of Ulster _____ County Ulster			
4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map) 300 Enterprise Drive, Kingston, NY 12401			
6. IS PROPOSED ACTION: <input type="checkbox"/> New <input type="checkbox"/> Expansion <input checked="" type="checkbox"/> Modification/alteration			
6. DESCRIBE PROJECT BRIEFLY: Modification of existing NYSDEC Permit No. 7-6164-00067/00090 to adjust the permit boundary from 258 acres to approximately 67 acres of the site. Details are provided in the permit modification application dated June 5, 2006 submitted to NYSDEC.			
7. AMOUNT OF LAND AFFECTED: Initially _____ 258 acres Ultimately _____ 67 acres (as proposed)			
8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, describe briefly			
9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT? <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Park/Forest/Open Space <input type="checkbox"/> Other Describe: The surrounding area is generally characterized by retail to the east along Route 9W, residential and neighborhood commercial use to the south along Boice Lane, industrial and office use to the north, and the Esopus Creek and undeveloped/agricultural land to the west.			
10. DOES ACTION INVOLVE A PERMIT APPROVAL OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, list agency(s) and permit/approvals			
11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, list agency name and permit/approval NYSDEC Permit No. 7-6164-00067/00090			
12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE			
Applicant/sponsor name: AG Properties of Kingston, LLC & Ulster Business Complex, LLC		Date: 20-Jul-06	
Signature: <i>Alan J. ...</i>			

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

OVER



PART II - ENVIRONMENTAL ASSESSMENT (To be completed by Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR PART 617.4? If yes, coordinate the review process and use the FULL EAF.
 Yes No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency
 Yes No

C. COULD ACTION RESULTS IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

C7. Other impacts (including changes in use of either quantity or type of energy? Explain briefly.
 No adverse impacts anticipated. Please refer to the Section C Attachment.

D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CRITICAL ENVIRONMENTAL AREA (CEA)? If yes, explain briefly:
 Yes No

E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS? If yes.
 Yes No

PART III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question D of Part II was checked yes, the determination and significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

Check this box if you have identified one or more potentially large or significant adverse impacts which MAY occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action WILL NOT result in any significant adverse environmental impacts AND provide on attachments as necessary, the reasons supporting this determination:

_____ Name of Lead Agency

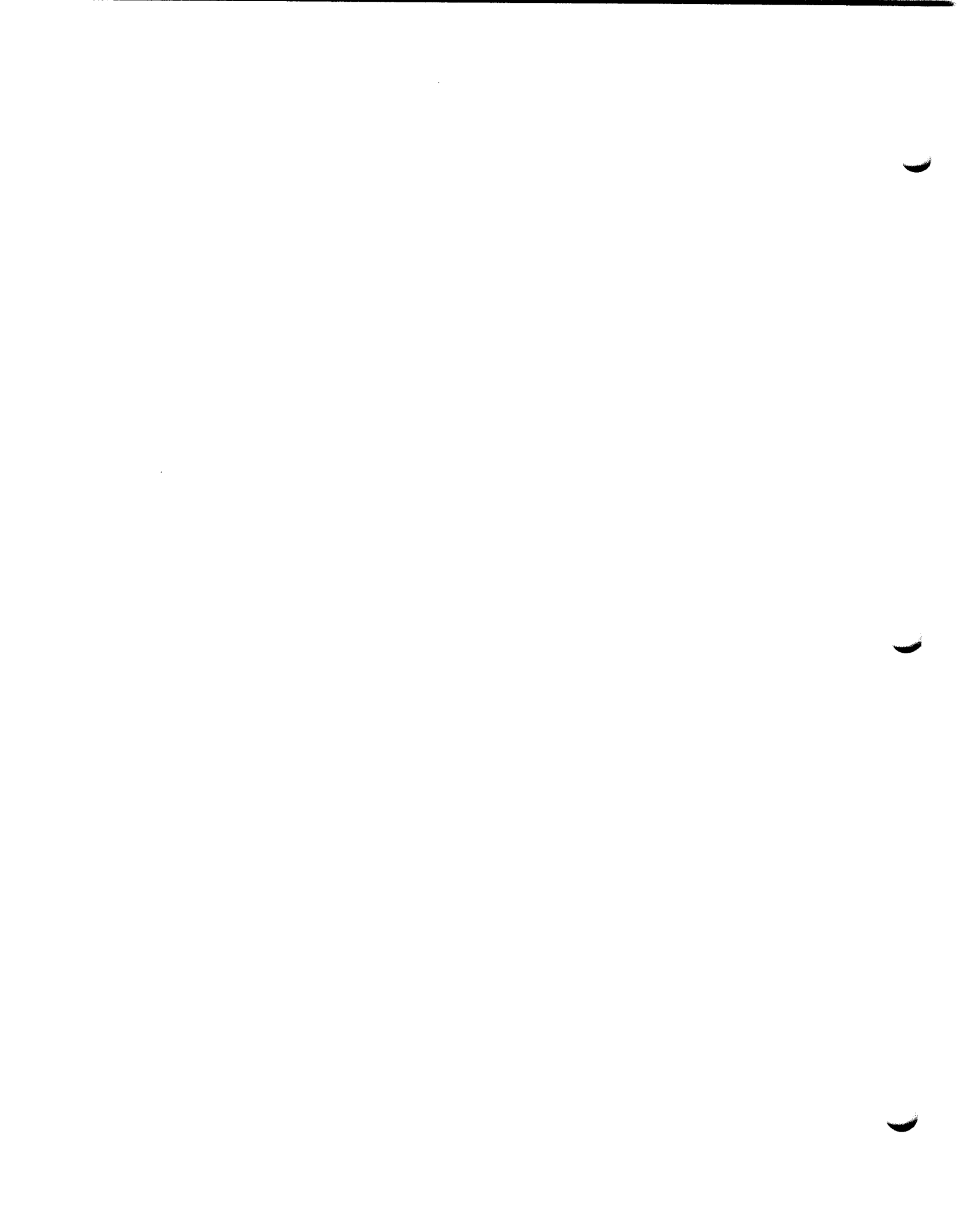
_____ Title of Responsible Officer

_____ Print or Type Name of Responsible Office in Lead Agency

_____ Signature of Preparer (if different from Responsible Officer)

_____ Signature of Responsible Officer in Lead Agency

_____ Date



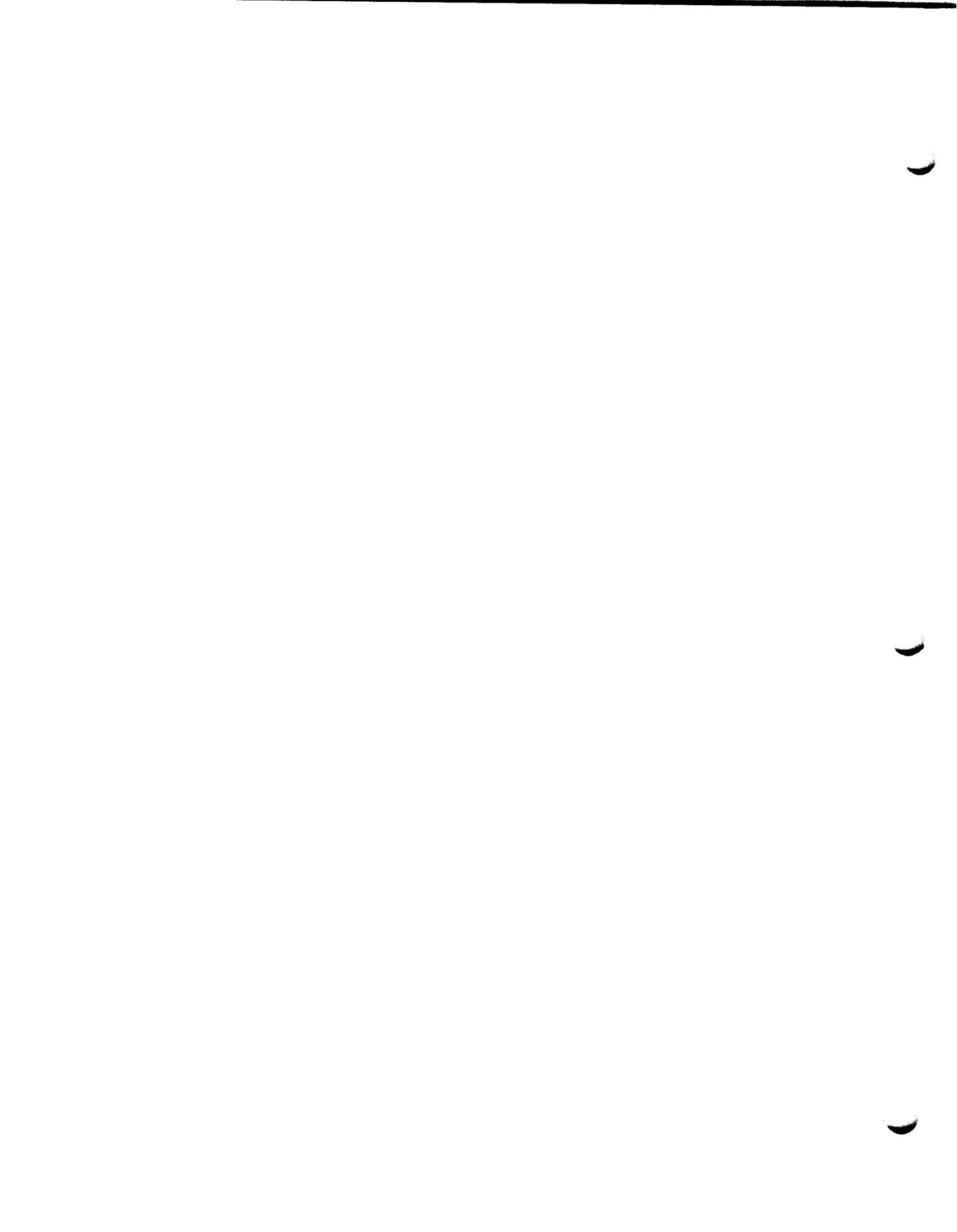
Project I.D. Number
7-5154-00067/00090

TechCity (Formerly IBM-Kingston)
Kingston, New York

ATTACHMENT FOR SHORT EAF, PART II, SECTION C:

The proposed action is to modify the referenced permit on a developed industrial site that is undergoing environmental remediation by IBM. Detailed plans and supporting documents were submitted to NYSDEC on June 6, 2006 and provide the basis for this request. The original NYSDEC permit, issued in 1988, referred to the entire IBM facility; this facility included undeveloped land and areas not used in the manufacturing and testing that occurred during IBM's operations. The cleanup and monitoring activities conducted by IBM since 1988 have resulted in a much smaller delineation of the site that is still affected by environmental issues; these areas are largely due to the presence of impacted groundwater beneath and adjacent to the former manufacturing areas. IBM's ongoing cleanup program should further reduce the extent of impacted groundwater in the future. As the proposed permit modification is the movement of a boundary line, adverse impacts are not anticipated as this is a developed site on which environmental cleanup will continue under NYSDEC oversight.

7/20/06



NEW YORK STATE DEPARTMENT OF HEALTH
 Bureau of Toxic Substance Assessment
 2 University Place - Room 240
 Albany, New York 12203
 Telephone # - 518-458-6376

TO:
MIKE O'HERN
 Fax # - 914/428-0017

FROM:
CHARLES HUDSON
 Fax # - 518-458-6372

Number of Pages Including Cover Sheet: 9

Date: 1/30/96

Subject/Comments:

Call _____ if you have any problems with this fax

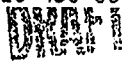


November 8, 1995

**IBM KINGSTON
Volatile Organic Compounds in Indoor Air**Background

The State of New York is considering purchasing Buildings B005N, B025, B201, B202, and B203 on the IBM Kingston facility. Past environmental investigations have identified subsurface volatile organic chemical (VOC) contamination in groundwater on the facility from leaking underground storage tanks. Cleanup pursuant to the Resource Conservation and Recovery Act (RCRA) began in 1985 and continues. Contaminated groundwater is being collected on the site using interceptor trenches and a recovery well. The collected water is treated in shallow tray aeration systems at two treatment facilities: one located about 750 feet northeast of Building B202 and one located at the southeast corner of Building B005. The VOCs are separated from the water and discharged into the atmosphere; clean water is discharged to the public sanitary sewer. Approximately 30 gallons per minute of water containing approximately one milligram per liter of total VOCs (primarily trichloroethene and 1,1,1-trichloroethane) are treated at the facility located northeast of Building B202. Approximately 5 gallons per minute of water containing approximately 0.5 milligrams per liter of total VOCs (primarily tetrachloroethene) are treated at Building B005. (Bramon, 1995) Air dispersion modelling of these small sources suggests that air levels at Buildings B005N and B202 would be extremely low and below detection limits of laboratory tests. (Chinery, 1995) Additional groundwater which infiltrates the storm sewer is discharged to the Esopus Creek without treatment under a SPDES permit. (Casper, 1995)

VOCs identified in the groundwater on the facility consist primarily of 1,1,1-trichloroethane and trichloroethene; concentrations up to 19.4 and 3.7 milligrams per liter respectively were detected in 1995. Tetrachloroethene, methylene chloride,



November 8, 1995

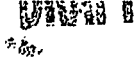
carbon tetrachloride, chloroform, 1,1-dichloroethene, and 1,1-dichloroethane have also been detected in the groundwater. Review of existing groundwater data reports and site status reports indicate that Buildings B201, B202, and B203 are located outside any known groundwater plume; portions of Buildings B005N and B025 are located over areas of low level contamination (less than 10 micrograms per liter, Groundwater Services Corporation, 1995)

The NYS Department of Health (DOH) was asked to develop a sampling plan to evaluate the potential for the indoor air in these buildings to be affected by VOCs due to subsurface infiltration from contaminated groundwater or from other sources which may be present in the buildings. To accomplish this, DOH reviewed the floor plans (NYS Office of General Services, 1995), inspected the site and developed this air testing protocol to measure levels of specific VOCs in the buildings under a range of conditions which may occur under normal operations.

Pre-sampling Inspection

DOH staff inspected the five buildings to identify potentially significant contaminant sources, to choose air testing locations and to determine the appropriate operating conditions under which air samples should be collected. DOH staff were accompanied by an IBM representative who provided information on the building construction and prior use.

The buildings are slab on grade construction with elevator pits and with some below grade utility entrance rooms. Below grade pits and other possible breaches in the concrete slab can provide a pathway for pollutants to enter the building, especially under



November 8, 1995

conditions where building pressure is less than soil gas pressure. Most of the buildings have been unoccupied for approximately one year, although the mechanical systems have been operated intermittently. DOH staff used a portable organic vapor monitor during the inspection of each of the buildings to measure total VOC levels in the areas inspected. The portable meter can detect elevated levels of trichloroethene but does not respond to 1,1,1-trichloroethane.* Several floor drains, elevator pits, utility entrance points (electrical and steam lines), cracks in concrete slabs and exterior perimeter manhole covers were surveyed for VOCs. Areas in the buildings where chemical solvents were reported to have been used by IBM were also surveyed for VOCs.

*The portable VOC monitor is a Photovac microtip model HL2000 which measures photoionizable organic compounds with a electron voltage potential of 10.6 eV or less. The meter response is relative to isobutylene, the calibration gas. Some of the compounds identified at the site such as trichloroethene, tetrachloroethene and 1,1-dichloroethene are detected by the instrument with a detection limit of about 0.2 parts per million. The voltage potentials of several of the compounds at the site such as 1,1,1-trichloroethane, 1,1-dichloroethane, carbon tetrachloride and methylene chloride are higher than 10.6 eV and these compounds are not detected by the Microtip

November 8, 1995

Findings

- No chemical odors were noticed except for odors of apparent elevator hydraulic fluid in the elevator pits.
- All of the floor drains inspected under the raised floor systems were plugged. The IBM representative explained that these drains were connected to the industrial waste collection system.
- All of the elevator pits were dry with no observed signs of past groundwater infiltration. Small quantities of hydraulic fluid were present in some elevator pits.
- The utility room in the southeast corner of Building B202 is about ten feet below grade. Steam lines and chill water lines enter the building through this room. There was some standing water on the floor. It was unclear whether the water was from a leaking steam fitting or from groundwater infiltration. VOC levels in this room were 0.2 to 0.3 parts per million.
- VOC levels were not detected in most of the areas monitored. Responses were obtained in a few areas, but the levels were all less than 0.4 parts per million. The areas where slightly elevated responses were obtained included: the steam pipe service entrances in Buildings 201 and 202, outdoor manhole covers near the Building 203 loading dock and near the perimeter of Building 202, and in the sidewalk/wall joint outside Building 203 west entrance. No positive readings were obtained in areas where solvents were reported to have been used by IBM.

November 8, 1995

- The slightly elevated readings obtained in Building 202 may be in part attributed to instrumental drift (zero drift) under high humidity conditions. It was raining at the time Building 202 was inspected, and measurements were taken in very humid areas including the sub-surface utility room and outdoors. Also, the final calibration check for the instrument showed 0.2 to 0.3 parts per million for carbon filtered air and the final reading of the 102 parts per million calibration gas was 107 parts per million.

Discussion

Heating, ventilating and air conditioning (HVAC) systems were not operating at the time of the inspection nor were they inspected. The operation of an HVAC system may influence migration of pollutants into a building. Negative air pressure in the lowest floor (not an infrequent situation) of a building could pull any contaminated soil gas in from the surrounding soil through breeches in the foundation. Other factors which could affect soil gases include: barometric pressure, temperature, wind direction and speed, HVAC system operations, open/closed doors and the integrity of the foundation.

Recommendations

Sensitive air testing for individual VOCs should be performed in all five buildings. Prior to sampling, the HVAC systems should be operated for at least 48 hours in their normal occupied building mode. During air sampling, ventilation systems in the building should be set to simulate conditions which would optimize migration of soil gas into the building. This would involve operating the building with minimum ventilation. The outdoor air intake dampers should be in their minimum open position as would occur on

November 8, 1995

very hot or very cold days. Any economizer controls should be manually locked out to prevent over-ventilating the building. Any normally used adjustments, such as night setback or morning warm-up, should be included. The systems should warm or cool the buildings to normal set-point temperatures.

Air testing should be performed by a laboratory certified by the NYS Department of Health Environmental Laboratory Approval Program. An acceptable analytical method capable of identifying and quantifying (at low part-per-billion levels) the following compounds should be used: trichloroethene, tetrachloroethene, methylene chloride, ~~carbon tetrachloride~~, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, and any other compounds identified in significant quantities in contaminated groundwater or soil gas at the site. Samples should be collected for a period of at least two hours to obtain a sufficient time-weighted average and at a height of three feet. Outdoor air samples should be collected simultaneously with indoor samples to determine the contribution of outdoor air contaminant levels at the time of sampling. The attached schedule lists the suggested sampling locations in the buildings.

References:

Bramon, 1995. Personal conversation with Steve Bramon, IBM, November 8, 1995

Casper, 1995. Personal conversation with Gary Casper, NYS Department of Environmental Conservation RCRA Program.

Chinery, 1995. Personal Conversation with Robert Chinery, NYS Department of Health, November 8, 1995.

November 8, 1995

Groundwater Services Corporation, 1995. IBM Kingston, NY, 1994-95 Annual Groundwater Monitoring Report, September, 1995.

NYS Office of General Services, 1995. Data Center Relocation Building Evaluation Report, IBM Kingston Complex, March 31, 1995.

#53110116

November 3, 1995

INDOOR AIR SAMPLING LOCATIONS IBM KINGSTON

Building 005N - 1st floor, north end of open floor space, west side
1st floor, south end of open floor space, east side
2nd floor, centrally located office
3rd. floor, microfiche area

Building 025 - 1st floor hallway outside elevator bank
1st floor office north west corner
2nd floor office
3rd floor office

Building 201 - 1st floor office in SW corner
1st floor office in NE corner
2nd floor office

Building 202 - 1st floor west side open area
1st floor SE corner
2nd floor office
3rd floor office
4th floor office

Building 203 1st floor raised floor area
2nd floor laboratory D

#53070442

Privileged and Confidential

INDOOR AIR QUALITY INVESTIGATION

Former IBM Kingston, New York Complex

October 1996

Prepared for:

ALAN GINSBERG
Ulster Business Complex
114 Highpoint Road
Scarsdale, New York 10583

Prepared by:

ERM-NORTHEAST, INC.
501 New Karner Road
Suite 7
Albany, New York 12205



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APPENDIX B	AIR SAMPLING RESULTS
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Table 2	<i>Thermal Desorption Sample Results</i>
Table 3	<i>Organic Chemical Concentration Ranges</i>
APPENDIX C	AIR SAMPLING SHEETS, CHAIN-OF-CUSTODY FORMS AND LABORATORY ANALYTICAL RESULTS



1.0

INTRODUCTION

On 10 and 12 September 1996, ERM-Northeast, Inc. (ERM) conducted an indoor air quality investigation at the former IBM facility in Kingston, New York. The evaluation was performed for Mr. Alan Ginsberg at the request of Mr. Michael Ahern of Divney Consulting and was conducted by Ms. Regina Keenan, CIH, ERM Project Industrial Hygienist.

The assessment was conducted to determine if groundwater contamination at the site resulted in elevated airborne levels of organic chemicals. Measurements of organic chemicals were made in every building at the site (with the exception of Buildings 005N, 025, 201, 202 and 203 which were previously surveyed by the New York State Department of Health) with a photoionization detector (PID). Further air sampling, utilizing a sensitive analytical method with a very low detection limit, was performed in three buildings (001, 003 and 024) located above known areas of maximum ground water contamination, and in ambient air as a background measurement.

The results of both the walk-through survey and air sampling for organic chemicals conducted at the IBM Kingston facility on 10 and 12 September, 1996, indicate that the concentrations of volatile organic compounds do not exceed applicable guidelines and do not preclude occupancy of these buildings.

The report is divided into the following additional sections: Sampling Methodology (Section 2.0), Results and Discussion (Section 3.0), Summary (Section 4.0) and Attachments, presenting the groundwater contamination figures, air sampling data (Tables 1, 2 and 3) and associated documentation.

2.0

SAMPLING METHODOLOGY

A full walk-through of the facility (exclusive of the areas previously surveyed by the New York State Department of Health) was conducted on 10 September, 1996. Volatile organic compound (VOC) concentrations were recorded at representative locations inside and outside the buildings. Some telephone rooms in Building 005S were locked and therefore were not accessible. Fan rooms and areas with high voltage equipment also were not accessible. Buildings 052 and 064 were resurveyed on September 12th to determine if elevated readings recorded on September 10th were actual or if they were due to high humidity, which can affect instrument (photoionization detector) function. Sampling locations were designated by column locations, office identifications, or descriptions (for example, electroplating room, north corner) for areas in which columns or offices were not identified.

Screening for all organic chemicals was performed with a Photovac Microtip Model HL2000 equipped with a 10.6 eV lamp. The Microtip was calibrated daily prior to use with clean air and with 100 parts per million (ppm) isobutylene gas. This instrument is therefore capable of detecting organic compounds with an electron voltage potential less than 10.6 eV, and is sensitive to a number of contaminants detected at the site, including trichloroethylene, tetrachlorethylene (perchloroethylene), and 1,1-dichloroethylene. Due to the lack of readings exceeding zero on the afternoon of September 10th, the Microtip was periodically checked with organic vapor sources. It demonstrated response to both a magic marker and spray paint. The battery level was also checked approximately every two hours to ensure accurate readings.

Prior to the site visit, Groundwater Annual Monitoring Reports for the facility were reviewed to determine sampling locations at the site. Figures 4-11 and 4-12 of the 1995 report (presented in Attachment 1) indicate gradients of 1,000 micrograms per liter (ug/l) of the trichloroethane series (trichloroethane and its potential breakdown products) under Building 024 (B024) and under the southern portion of B001. Gradients of 100 ug/l were documented under B003. The trichlorethylene series indicates gradients of 100 ug/l under B001 and B003. The 12 April 1996 Soil Gas Survey and Sewer Systems Sampling also indicated that the east central portion of Building 003 may have elevated levels of VOCs due to waste pipes in this area.

Air sampling was therefore conducted in six interior locations in the three buildings located above the areas of the highest groundwater contamination and in two locations outside the buildings. The selected sites included two locations in B024, two in B001 and two in B003. The samples collected in Buildings 001 and 003 each included one near the center hallway and a second in the south central portion of each building. Exterior sampling locations included the southern perimeter and northeastern perimeter (facing 005N) of B003.

An air sampling methodology was selected which allows detection of a wide range of organic solvents in the parts per billion (ppb) or microgram per cubic meter (ug/m³) range. Samples were collected on Carbotrap 300 thermal desorption tubes with SKC air monitoring pumps set at a flow rate of from 50 to 100 milliliters per minute. The pumps were calibrated with a primary standard before and after sampling. Samples were collected from four to six feet from the ground to measure airborne concentrations representative of the human breathing zone. Additional

samples were collected in each sampling location on charcoal tubes to assist the laboratory in equipment calibration.

The thermal desorption tubes were desorbed immediately prior to shipping and were shipped in polycarbonate canisters to prevent contamination. Samples were sealed immediately after collection and shipped by overnight delivery to Wisconsin Occupational Health Laboratory (WOHL) in Madison, Wisconsin, for analysis of organic chemicals by gas chromatography/mass spectroscopy (modified EPA TO014 method). WOHL is an American Industrial Hygiene Association accredited laboratory. A trip blank was included for quality control. All samples were recorded on laboratory chain-of-custody forms provided to WOHL. Air sampling sheets, chain-of-custody documentation and laboratory analytical results are presented in Attachment 3.

2.1 ENVIRONMENTAL CONDITIONS

On September 10th, the humidity was approximately 70% in the morning and declined throughout the day. The humidity on September 12th was about 50% and remained constant. There was no precipitation on either day of the survey.

In general, the buildings were well maintained and in fairly good condition. Cracks and other forms of disrepair in the floor that would promote the dispersion of subsurface contamination were not noted. Monitoring in recessed portions of the floor in the test labs did not demonstrate higher concentrations of organic vapors. There were roof leaks in a number of areas in most vacant buildings, however, and heaves were noted in the flooring in the perimeter areas of Buildings 003 and 001.

Buildings B022, B035, B051, B032, B033, B042, and B043 were occupied and ventilated. The remaining buildings were vacant at the time of the survey with the photoionization detector. The ventilation system for Buildings 001, 003 and 024 were started on September 11th to simulate normal operating conditions for the air sampling conducted on September 12th. These units are rooftop units. Outside air intakes were set at minimum levels, however, to limit the potential for dilution of contaminants present in the buildings.

Air monitoring is considered representative of the day and conditions under which sampling was performed. The introduction of industrial processes, equipment, additional remediation, or ventilation changes may alter sampling results.

3.0 RESULTS AND DISCUSSION

3.1 PHOTOIONIZATION DETECTOR RESULTS

The data presented from the walk-through of the facility is presented in Table 1 of Attachment 2. It is listed in the order in which the survey was conducted, beginning at 9:00 am and concluding at approximately 4:00 pm. The larger buildings were surveyed in a transect manner. Buildings 023, 022, 024, 021, 001, 002, 003, 004 and 005 are continuous. Columns in building 023 through 5 are arranged in a grid, with #1 designating the north end of the building, ascending to #26 on the south side. The letter A designates the west end of the buildings, ascending to Z at the east side of Buildings 001 and 003. Building 4 and 5 South are lettered from AA on the west side of B004 to AM on the east side of B005. Buildings 022, 023, 024 and 005 are also marked with midpoint columns: an "a" designation is used in 022, 023 and 024 and a "b" designation in 005.

A number of the outlying buildings, 052, 043, 042, 033 and 051, also have designated grid patterns. B042 and 043 ascend from A to E from east to west; B033, 051 and 052 descend from N, F, and H, respectively, from east to west. B042, 043 and 051 ascend numerically from north to south; B052 and 033 ascend from south to north.

PID measurements obtained during the walk-through survey did not indicate widespread or localized chemical contamination. Readings above background may be attributed to interference from humidity or a specific source, such as the inks in the Rylance print shop. Moving between areas with different relative humidities, such as the interior and exterior of a building, generally can affect readings by up to a few parts per million.

Some of the initial outdoor readings in the morning of September 10 exceeded zero. No trucks or lawnmower activity was noted at that time, although vehicle traffic was intermittent throughout the day.

Elevated readings were recorded in Buildings 052 and 064 on September 10th. These areas were unventilated and are not located over the VOC plumes at the facility. Rain fell during the previous night and it is likely that high humidity in the buildings affected the photoionization detector. These buildings were resurveyed on September 12th. Ambient, or background, readings on the 12th were higher than on the 10th. This could be due to the heavy use of lawnmowers on the grounds of the facility on the 12th, or from humidity. Measurements in B052 and B064 on September 12th were approximately a third of the measurements on September 10th and were only slightly higher than ambient air readings on that day. The elevation appears to be an artifact of the high humidity in these two buildings.

3.2 **THERMAL DESORPTION RESULTS**

Thermal desorption air sampling was performed in six locations in the building and two exterior locations on September 12th after overnight operation of the HVAC system in these areas. The results of the thermal desorption air sampling is presented in Tables 2 and 3 of Attachment 2. Table 2 reports the concentrations at each location and Table 3 summarizes the results for all locations at the site. Expected ambient air concentrations and OSHA Permissible Exposure Limits (PELs) are provided for comparison. OSHA regulates chemical exposure in the workplace through the establishment of PELs, which are maximum 8-hour time-weighted average concentrations. Exposures at concentrations less

than or equal to the PEL are not expected to cause harmful health effects in workers. Air sampling confirmed that airborne chemical concentrations did not exceed background levels.

After an initial scan to identify potential peaks (compounds), each sample was analyzed for the following compounds: n-hexane, acetone, 1,2-dichloroethylene, methyl chloroform (1,1,1-trichloroethane), methyl ethyl ketone, isopropanol, ethanol, methylene chloride, benzene, trichloroethylene, a-pinene, chloroform, perchloroethylene, toluene, b-pinene, ethyl benzene, n-butanol, xylene, d-limonene, propylbenzene, styrene, butyl cellosolve, 1,1-dichloroethane, and 1,2-dichloroethane. Subsequent manual review of the data for 1,1-trichloroethane indicated a concentration exceeding the detection limit, but less than the quantitation limit, in three samples. The concentrations of all detectable compounds are presented in Tables 2 and 3. The majority of detected compounds were above the detection limit for the compound, but were less than concentration that can be accurately quantified (quantification limit). Compounds with estimated concentrations are designated by an asterisk in Tables 2 and 3.

During sample analysis, three samples were destroyed. These samples included the sample in the southern end of B001 and the two exterior samples. Due to the loss of the samples obtained from outside the building, data from a compilation of national surveys on ambient air concentrations of VOCs has been provided for comparison in Tables 2 and 3. This data was originally presented in an article summarizing the current literature on chemical concentrations in ambient air, "Concentrations and Transformations of Hazardous Air Pollutants" by T. Kelly, R. Mukund, C. Spicer, and A. Pollack, in Environmental Science and

Technology, Vol. 28, 1994. Sample results indicate that all detectable compounds were in extremely low concentrations and, with the exception of trichloroethylene, no detected chemicals exceeded the expected ambient air concentrations.

Chlorinated hydrocarbons were detected in each building (although not in each sample) but, again, are all in extremely low concentrations that would not be associated with health problems for occupants. The presence of chlorinated compounds in minute concentrations is common in office settings. Perchloroethylene was detected in three locations, but in concentrations less than those reported for ambient air. Table 3 demonstrates that the estimated concentrations (0.5 to 1.0 ug/m³) of trichloroethylene, detected in Building 001 and at one location in Building 003, slightly exceeds the reported ambient air concentration of 0.4 ug/m³. These reported concentrations, however, are at the lower limit of detection for the compound. In addition, a 1989 World Health Organization study reported that levels up to 20 ug/m³ were detected in 90% of the office environments examined. The reported concentrations are less than the detection limit of organic sampling with charcoal tubes (used for OSHA compliance), and are also less than one five-hundred thousandth of the allowable OSHA exposure limit for a workday.

4.0

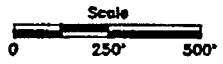
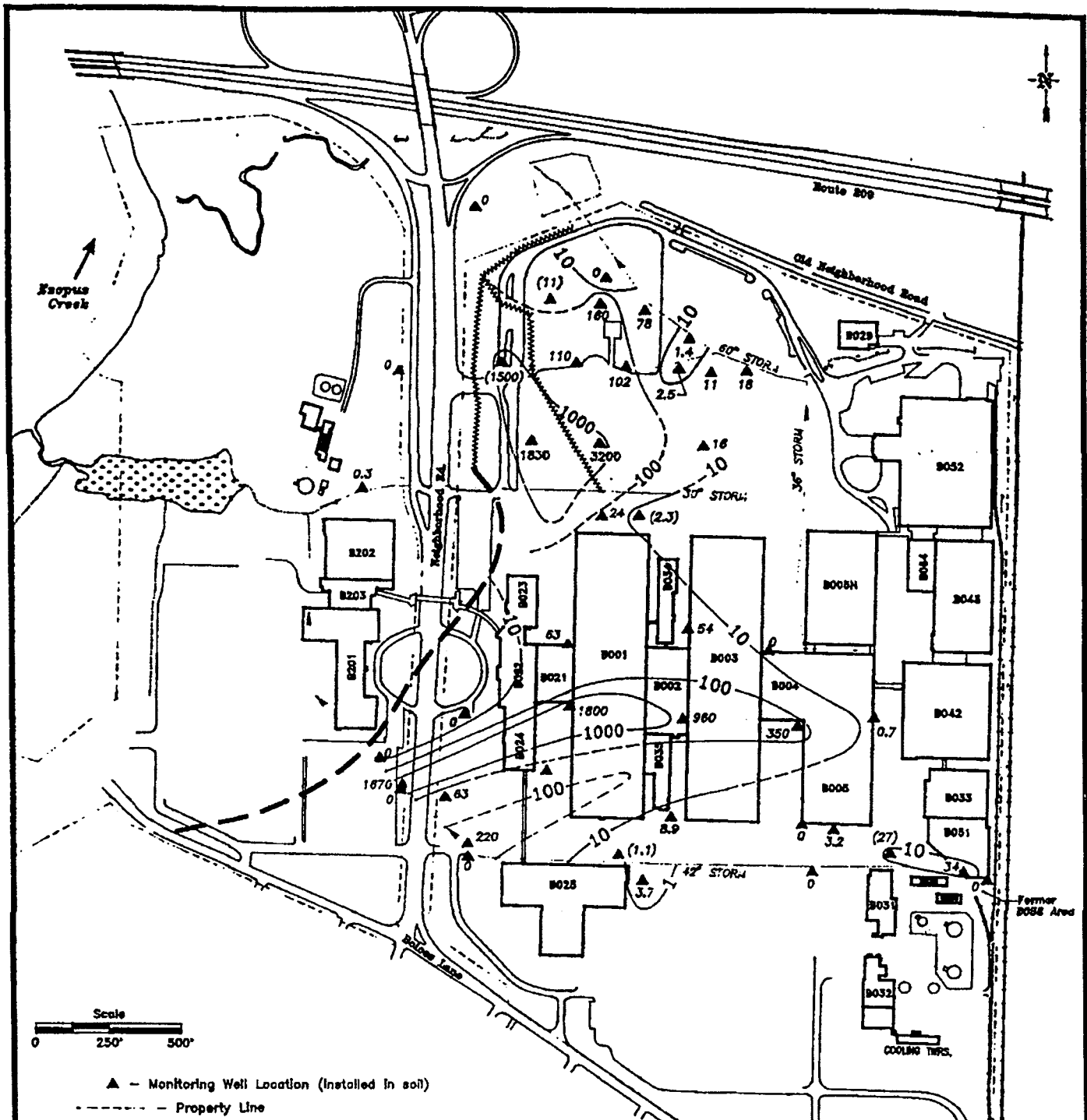
SUMMARY

On 10 and 12 September, 1996, an indoor air quality investigation was conducted by ERM-Northeast at the IBM Kingston facility to determine if groundwater contamination at the site resulted in elevated airborne levels of organic chemicals. Measurements of organic chemicals were made in every building at the site (with the exception of previously surveyed Buildings 005N, 025, 201, 202 and 203) with a photoionization detector (PID). Thermal desorption air sampling, selected for its low detection limit, was performed in three buildings (001, 003 and 024) located above known areas of maximum ground water contamination, and in ambient air as a background measurement.

The maximum measurements obtained in any location during the facility walk-through with the PID only slightly exceeded background (ambient) levels. These elevations are likely to be attributable to humidity affecting instrument function. Thermal desorption results demonstrate that VOC concentrations in the sampled buildings were in the range of ambient air concentrations reported in the literature. Data from both the walk-through survey and air sampling for organic chemicals conducted at the IBM Kingston facility, therefore, indicates that the concentrations of VOCs are significantly less than the levels associated with human health effects and would not be expected to present a hazard to building occupants.

APPENDIX A
GROUNDWATER CONTAMINATION MAPS






- ▲ - Monitoring Well Location (Installed In soil)
- - - - - Property Line
- ====+==== Railroad
- 10 - TCA Series Concentration Contour (ug/l)
- 63 - TCA Series Concentration (ug/l)
 - TCA = 1,1,1-Trichloroethane
 - 11DCA = 1,1-Dichloroethane
 - 11DCE = 1,1-Dichloroethylene
- (1.1) - TCA Series Average Quarterly Concentration (ug/l)
- ~~~~~ Groundwater Collection System (GWCS)
- - - - - Limit of Perennially Saturated Fill/Sand

TCA Series Concentration =

$$C_{TCA} + C_{11DCE} \left(\frac{MW_{TCA}}{MW_{11DCE}} \right) + C_{11DCA} \left(\frac{MW_{TCA}}{MW_{11DCA}} \right)$$

Figure 4-11

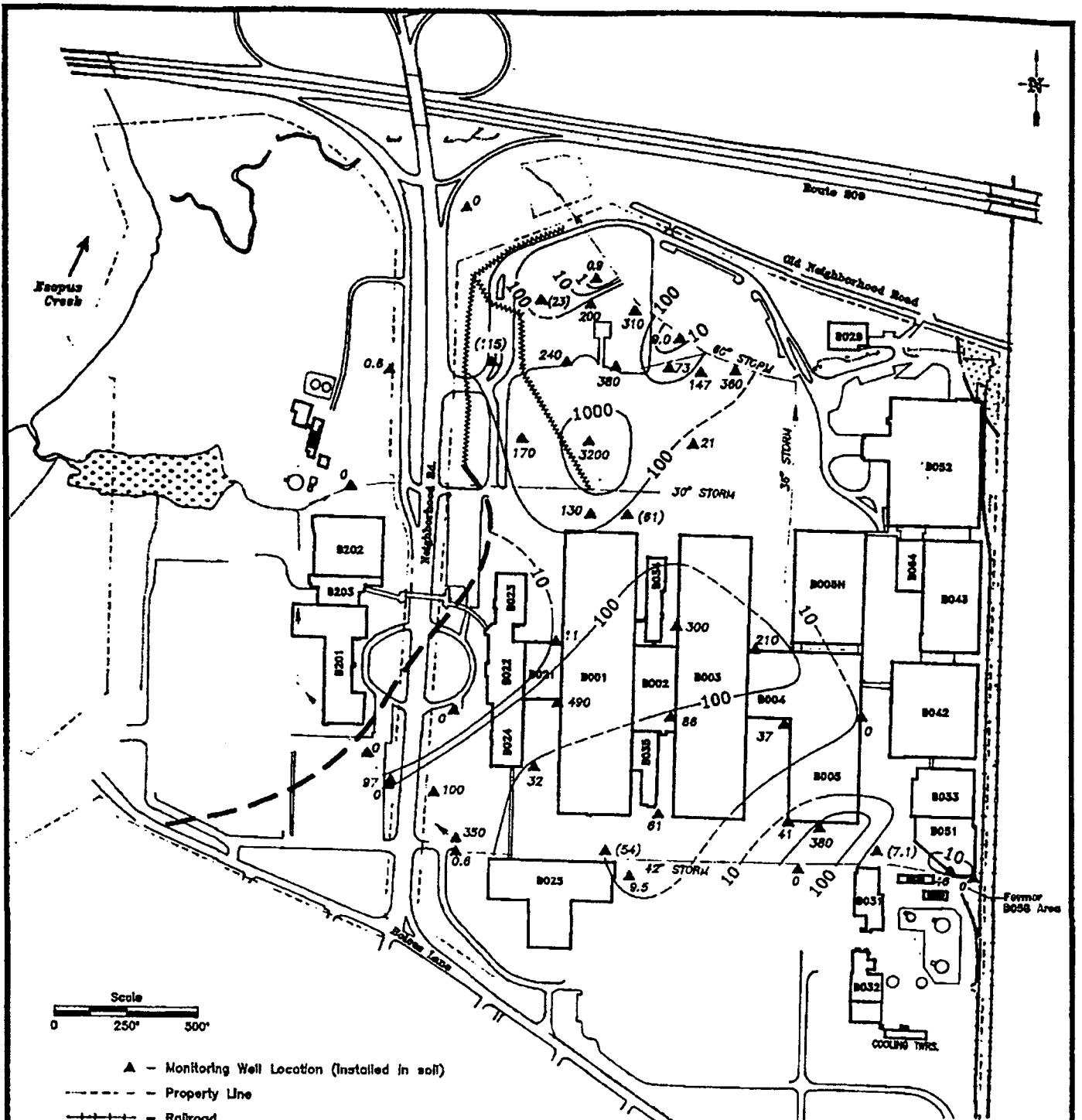


Kingston, New York

**TCA Series Concentration
Contour Map
Second Quarter 1995**

DRAWN BY: <i>MJM</i>	DATE: 9/21/95	DRAWING NO.
CHECKED & APPROVED BY: <i>JLS</i>	93002-013-0	

GROUNDWATER SCIENCES CORPORATION



- ▲ - Monitoring Well Location (Installed in soil)
- - - - - Property Line
- +++++ Railroad
- 10 - - - TCE Series Concentration Contour (ug/l)
- 61 - TCE Series Concentration (ug/l)
 - TCE = Trichloroethylene
 - PCE = Tetrachloroethylene
 - 12DCE = 1,2-Dichloroethylene (Total)
 - VC = Vinyl Chloride
- (54) - TCE Series Average Quarterly Concentration (ug/l)
- ~~~~~ Groundwater Collection System (Interceptor Trench)
- - - - - Limit of Perennially Saturated Fill/Sand

TCE Series Concentration =

$$C_{TCE} + C_{PCE} \left(\frac{MW_{TCE}}{MW_{PCE}} \right) + C_{12DCE} \left(\frac{MW_{TCE}}{MW_{12DCE}} \right) + C_{VC} \left(\frac{MW_{TCE}}{MW_{VC}} \right)$$

Figure 4-12

TCE Series Concentration Contour Map
Second Quarter 1995

DRAWN BY: <i>JSLM</i>	DATE: 11/15/95
CHECKED & APPROVED BY: <i>J.S.S.</i>	DRAWING NO. 93002-018-0
GROUNDWATER SCIENCES CORPORATION	

APPENDIX B
AIR SAMPLING RESULTS



Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (ppm)	Column	Office Number/ Location	Comments
B064	11.7-11.9			center of room
B052	7.7-8.1	B2-063		
	11.1-11.2	A4		
	7.2	B7		
	4.7	B10		
	5.1	B11		
	4.9	C11		
	3.4-3.6	H11		
	1.6-1.9	H9		
	1.2-1.4	F10		
	1.4-1.7	D8		
	1.4-1.5	D5		
	0.0	F4		
	0.0	G4		
	0.0	G6		
	0.0	G2		elevator, southeast corner
005	0.0	AF11B		
	0.0	AH5		
	0.0		Room 10-34	
	1.5-1.6			outside 15E
	0.0	17E		
	0.0	24E		
	0.0		AH24a	
	0.0		005-21	

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number / Location	Comments
005	0.0		23W19	
			17W19	
	0.0		19W1	
	0.0		14W8	
	0.0		13W	west end of corridor
	0.0		11W11	
	0.0	AD13b		
	0.0	AE11b		
	0.0	AJ12		
	0.0	AM13b		
004	0.0	AC14		
	0.0		UV Cure/ Etching Room	
	0.0		004N4-20	
	0.0		004-1-3-2	
	0.0	AAb11		
	0.0	AA14a		
	0.0		Electroplating Room	
003 exterior	1.6 - 2.1			south end of building
003	0.0	Z18		
	0.0		003E22-21	
	0.0	X20	LAN Room	

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
003	0.0	W26		
	0.0	V22		Open area under raised floor
	0.0		Door to Rylance Printing	
	0.0	V18		
	0.0		003SW23-4	
	0.0	V17		
	0.0		Outside Fan Room #8	
	0.0	V10		Open area under raised floor
	0.0	V3		
	0.0		office across from WAI	
002	0.0	YA1		
	0.0		003E 3-17	
	0.0	Z5		
	0.0		003E 6-24	
	0.0	Y7		Loading dock
	0.0		Cafeteria area	
	0.0	X14		
	0.0	Y12		
	0.0		003E21-33	
	0.0	V11		
	0.0	T14		
	0.0	T12		

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Privileged and Confidential

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
002	0.0	S15		
	0.0	S13		
	0.0	S10		
001 exterior	1.8 - 2.2			south end of building
001	0.0	N22		
	0.0	P25		
	0.0	M25		
	0.0	M22		
	0.0	M17		
	0.0	K18		
	0.0	K22		
	0.0	R13		
	0.0	N11		
	0.00.0	N5		
	0.0	R3		
001 exterior	0.0			north end of building
	0.0		001W 3-15	
	0.0		001W 5-8	
		K4		
	0.0		001W 8-14	
	0.0		001 W11-10	
	0.0	K10		

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
001	0.0	K9		
	0.0	K14		
021	0.0	J15		
	0.0	F11		
021	0.0	G15		
	0.0	F11		
	0.0		kitchen, near Hobart mixers	
	0.0		center of cafeteria	
034	0.0		telephone switchroom	
	0.0		room south of telephone room	
	0.0		switchroom	
	0.0		mechanical room	
	0.0		substation	
	0.0		substation 034-2	
	0.0		substation 034-3	
	0.0		near bay doors	
023 exterior	0.0			north entrance
023	0.0		023-1-7-8	
	0.0	Da80232N		Second floor
023	0.0	Ca4a0232N		Second floor
	0.0	Da50232N		Second floor

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Privileged and Confidential

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
023	0.0		023-2-3-11	Second floor
	0.0	C6b0232N		Second floor
	0.0		023-2-5-10	Second floor
	0.0	Ba9 0232		Second floor
	0.0		023-2-7-12	Second floor
	0.0	Ba60232N		Second floor
	0.0	Ba4a0232N		Second floor
	0.0	BA60231		
	0.0	C4A0231		
	0.0		023 12-6	
	0.0		023-14-12	
	0.0	DA80231		
	0.0	BA9A0231		
	0.0		8023-1	
	0.0	D90231		
022 exterior	0.0			Front lobby entrance
022	0.0	Ca110222N		Second floor
	0.0		2-9-1A Flex work Center	Second floor
	0.0	D13A0222		Second floor
	0.0		Outside RJCD Library	Second floor
	0.0	16A0222		Second floor
	0.0		0222-15-16	Second floor

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Privileged and Confidential

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
022	0.0	B140222		Second floor
	0.0		0222-12-15	Second floor
	0.0	B11022-2N		Second floor
	0.0		Conference Room I	
	0.0		Conference Room O	
	0.0		Badging	
	0.0		Elevator Near 14-122-1	
	0.00.0		022-16-B	
	0.0		0221 A014017 Security	
	0.0		022-1-9-18	
024	0.0	D17a0242		Second floor
	0.0	Da190242		Second floor
	0.0	Da22024Z		Second floor
	0.0	Ba21a0242		Second floor
	0.0		024-2-20	Second floor
	0.0	Ba18a0242		Second floor
	0.0		17-024-1	
	0.0	Ba18a0241		
	0.0		B024W stairwell	
	0.0	Ba20a0241		
0.0		024-1-23-14		
0.0		024-1-22-2		

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
024	0.0	Da190241		
036	0.0		Basement	
	0.0		Floor 1, Over Grate	
	0.0		Wet Lab	
	0.0		Control Room	
	0.0		pH Control System Room, South Room	
029 exterior	0.0			West side of building
029	0.0		Room 116	
	0.0		Women's Bathroom	
	0.0		Northwest Corridor	
	0.0		Room 112	
	0.0		Room 114	
	0.0		Room 106	
	0.0		Room 109	
	0.0		Room 108	
	0.0		Room 107	
	0.0		Room 105	over drain
	0.0		southeast corner	
	0.0		Room 103	
	0.0		Mezzanine	
051	0.0		Loading Dock	
	0.0		1-051, Storage	
	0.0		Across From 4-051	

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
051	0.0		Southeast Loading Dock	
	0.0		Room 5-051	
	0.0		Cafeteria Areas	
	0.0		Room 051-1-4-11	
	0.0		Room 051-1-2-10F	
	0.0		Office manager's office	
	0.0		Oil drum storage area	
	0.0		Compressor Room	
	0.0		Nutmeg Storage	
	0.0		Center, East Wall	
031 exterior	0.0		Center, West Wall	
	0.0		Center, North Wall	
	0.0		Center, South Wall	
	0.0		West Loading Dock	
	0.0			
	0.0		Basement	
	0.0		Southeast wall	
	0.0		Southeast corner	
	0.0		Control room	
	0.0		Offices	

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
	0.0		west side loading dock	
031	0.0		substation No. 1F	
	0.0		motor control center	
	0.0		basement south wall	
	0.0		basement north wall	
	0.0		northeast corner	
	0.0		Southwest corner	
	0.0		northwest corner	
033	0.0		lobby	
	0.0		west side office	
	0.0		E5	
	0.0		outside Heritage Center	
	0.0		loading dock	
	0.0		west wall	
	0.0	0426C		
	0.0	042C1		
	0.0	F3		
	0.0	G13		
	0.0	G7		
	0.0	E15		
	0.0	D17		
	0.0	D19		

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 10 September 1996

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
043	0.0	E18		
	0.0	E15		
	0.0	D13		
	0.0	C10		
	0.0	A10		
	0.0	B2		
	0.0	D#		
	0.0	E2		
	0.0	transformer room		
	0.0	B12		
	0.0	B08		
	0.0	B15		
	0.0	B19		
	0.0	loading dock		
	0.0	A15		
	0.0	A11		
035 exterior	0.0			
035	0.0	lobby		
	0.0	northwest wall		
	0.0	printing press		
	2.5 - 3.8	over open inks		
	1.2 - 1.3	northeast wall		
	0.0	loading dock		

All locations are the first floor unless otherwise noted.

Table 1 - Photoionization Detector Readings
 IBM Kingston Buildings
 12 September 1996

Privileged and Confidential Draft

Building	Concentration (PPM)	Column	Office Number/ Location	Comments
022 exterior	1.9		front lobby door	lawn mower activity noted
064	4.2	C1064		
052	4.2	A1064		
063	3.6		corridor to 064	
052	3.5	B2064		
	3.8	052B2		
	3.5	B7		
	3.3	C5		
	2.6	C9		
	2.4	C10		
	2.4	B10		
	2.1	H9		
	2.0	G6		
	1.8	H2		
exterior 023	1.5 - 1.6			north end of building
023	1.5	Ba8023-1		
	1.5	B160221		
exterior 022	1.5 - 1.6			no lawn mowers present

All locations are the first floor unless otherwise noted.

Table 2 - Thermal Desorption Sampling Results
 IBM Kingston Buildings
 12 September 1996

Privileged and Confidential

Building/ Location/ Sample #	Sampling Time (min.)	Contaminant	Concentration (ug/m ³)	Reported Ambient Concentrations (ug/m ³) ^A	OSHA PEL (ug/m ³)
B 024/ Column Ba20a-24/ 091224A	86	methyl chloroform	1.0*	2.3	1,900,000
		a-pinene	1.0*	no data	NE
		b-pinene	8.0	no data	NE
		toluene	6.0	8.6	752,000
		ethyl benzene	1.0*	1.1	435,000
		total xylenes	2.0*	10.7	435,000
		propylbenzene	0.3*	no data	NE
		styrene	0.3*	0.6	426,000
		butyl cellosolve	6.0	no data	NE
		B 024/ Column Da22a-024/ 091224B	83	a-pinene	1.0*
perchloroethylene	0.2*			1.7	680,000
toluene	5.0			8.6	752,000
ethyl benzene	0.5*			1.1	435,000
total xylenes	2.0*			10.7	435,000
propylbenzene	0.2*			no data	NE
styrene	0.2*			0.6	426,000
butyl cellosolve	5.0			no data	NE

* Quantity is estimated as the concentration is less than the quantification limit of the method.

Note: A milligram (mg.) equals 1,000 micrograms (ug.).

NE: None Established.

A From "Concentrations and Transformations of Hazardous Air Pollutants" by T. Kelly, R. Mukund, C. Spicer, and

A. Pollack, in Environmental Science and Technology, Vol. 28, 1994.

B Sample destroyed during laboratory analysis.

OSHA PELs are maximum concentrations established to protect workers.

Table 2 - Thermal Desorption Sampling Results
 IBM Kingston Buildings
 12 September 1996

Privileged and Confidential

Building/ Location/ Sample #	Sampling Time (min.)	Contaminant	Concentration (ug/m ³)	Reported Ambient Concentrations (ug/m ³) ^A	OSHA PEL (ug/m ³)	
B 001/ Column 001M16/ 091201A	100	methyl chloroform	1.0*	2.3	1,900,000	
		trichloroethylene	0.5*	0.4	538,000	
		perchloroethylene	0.3*	1.7	680,000	
		toluene	4.0	8.6	752,000	
		ethyl benzene	1.0*	1.1	435,000	
		total xylenes	3.0*	10.7	435,000	
		styrene	0.2*	0.6	426,000	
		butyl cellosolve	5.0	no data	NE	
		B				
		B001/ Between Columns N23 & N22/091201B	79			
B003/ north of Column W17/ 091203A	79	methyl chloroform	1.0*	2.3	1,900,000	
		trichloroethylene	1.0*	0.4	538,000	
		a-pinene	1.0*	no data	NE	
		b-pinene	6.0	no data	NE	
		perchloroethylene	1.0*	1.7	680,000	
		toluene	6.0	8.6	752,000	
		ethyl benzene	1.0*	1.1	435,000	
		total xylenes	3.0*	10.7	435,000	
		propylbenzene	1.0	no data	NE	
		styrene	0.3*	0.6	426,000	
butyl cellosolve	6.0	no data	NE			

* Quantity is estimated as the concentration is less than the quantification limit of the method.

Note: A milligram (mg.) equals 1,000 micrograms (ug.).

NE: None Established.

A From "Concentrations and Transformations of Hazardous Air Pollutants" by T. Kelly, R. Mukund, C. Spicer, and

A. Pollack, in Environmental Science and Technology, Vol. 28, 1994.

B Sample destroyed during laboratory analysis.

OSHA PELs are maximum concentrations established to protect workers.

Table 2 - Thermal Desorption Sampling Results
 IBM Kingston Buildings
 12 September 1996

Building/ Location/ Sample #	Sampling Time (min.)	Contaminant	Concentration (ug/m ³)	Reported Ambient Concentrations (ug/m ³) ^A	OSHA PEL (ug/m ³)
B003/ north of Column W23/ 091203B	72	a-pinene	1.0*	no data	NE
		b-pinene	4.0*	no data	NE
		toluene	3.0*	8.6	752,000
		ethyl benzene	0.4*	1.1	435,000
		total xylenes	2.0*	10.7	435,000
		propylbenzene	0.4*	no data	NE
butyl cellosolve	4.0*	no data	NE		
Exterior, east entry, north of Column Z3a 0912EXA	83	B			
Exterior, south entry, east of W26/ 0912EXB	87	B			

* Quantity is estimated as the concentration is less than the quantification limit of the method.

Note: A milligram (mg.) equals 1,000 micrograms (ug.).

NE: None Established.

A From "Concentrations and Transformations of Hazardous Air Pollutants" by T. Kelly, R. Mukund, C. Spicer, and

A. Pollack, in Environmental Science and Technology, Vol. 28, 1994.

B Sample destroyed during laboratory analysis.

OSHA PELs are maximum concentrations established to protect workers.

Table 3 - Organic Chemical Concentration Ranges
 IBM Kingston Buildings
 12 September 1996

Privileged and Confidential Draft

All Locations	Contaminant	Concentration Range (ug/m ³)	Reported Ambient Concentrations (ug/m ³) ^A	OSHA PEL (ug/m ³)
	methyl chloroform	1.0*	2.3	1,900,000
	trichloroethylene	0.5 - 1.0*	0.4	538,000
	a-pinene	1.0*	no data	NE
	b-pinene	4.0 - 8.0	no data	NE
	perchloroethylene	0.2 - 1.0*	1.7	680,000
	toluene	3.0 - 6.0	8.6	752,000
	ethyl benzene	0.4 - 1.0*	1.1	435,000
	total xylenes	2.0 - 3.0*	10.7	435,000
	propylbenzene	1.0	no data	NE
	styrene	0.3*	0.6	426,000
	butyl cellosolve	6.0	no data	NE

*Quantity is estimated as the concentration is less than the quantification limit of the method.

Note: A milligram (mg.) equals 1,000 micrograms (ug.).

NE: None Established.

A From "Concentrations and Transformations of Hazardous Air Pollutants" by T. Kelly, R. Mukund, C. Spicer, and

A.Pollack, in Environmental Science and Technology, Vol. 28, 1994.

OSHA PELs are maximum concentrations established to protect workers.

APPENDIX C
AIR SAMPLING SHEETS, CHAIN-OF-CUSTODY
FORMS AND LABORATORY ANALYTICAL RESULTS

IR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Disney IBM

Project #: 1259.002

Location: Kingston

Date: 9/12/96

Sampler: R Keenan

Employee Information:

Employee Name: _____

Social Security#: _____

Job Title: _____

Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 024

Countertop near Baz0a-24

Operation: _____

Sample Type: _____ Personal Area

_____ TWA _____ STEL

Sampling for:

Chemical _____ TWA _____ STEL

Organics _____ _____

_____ _____

Sampling Media: Carbotrap

Sampling Device: _____

Sample #: 091224A

Blank Sample #: _____

Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____

CONTROLS

PPE: _____

Engineering: HVAC system on since 9/11

Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC

Serial/Pump #: 527449

Pump Calibration (method): _____

Pre: 78.1 LPM Post: 78.2 LPM

78.2 LPM 79.8 LPM

78.4 LPM 79.0 LPM

Final: 78.6 LPM

Time: 86

(on) 0856 (off) 1022 (on) _____ (off) _____

Final: 86 min.

Volume: 6.79 L

Comments: _____

ANALYSIS

Method: thermal desorption

Laboratory: WOHL

Date: _____

Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 024
Countertop near BAZ-24
 Operation: _____
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
Organics _____

 Sampling Media: Charcoal
 Sampling Device: _____
 Sample #: 091224ACH
 Blank Sample #: _____
 Draeger Tubes:
 Chemical _____ Time _____ Reading _____

CONTROLS

PPE: _____

 Engineering: _____

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 527449
 Pump Calibration (method):
 Pre: 144.0 LPM Post: 130.5 LPM
144.6 LPM 129.7 LPM
143.3 LPM _____ LPM
 Final: 137.0 LPM
 Time:
 (on) 10²⁴ (off) 1129 (on) _____ (off) _____
 Final: 65 min.
 Volume: 8.91 L
 Comments: _____

ANALYSIS

Method: _____
 Laboratory: _____
 Date: _____
 Results:
 Chemical _____ Results _____ Time _____ TWA/STEL _____

 Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 8/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 24
desk in office nr. column DAZZa 024
 Operation: _____
 Sample Type: Personal _____ Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
Organic
 Sampling Media: Carbotrap
 Sampling Device: _____
 Sample #: 091224B
 Blank Sample #: _____
 Draeger Tubes:
 Chemical _____ Time _____ Reading _____

CONTROLS

PPE: _____

 Engineering: HVAC on since 8/11

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 512552
 Pump Calibration (method): GI
 Pre: 95.2 LPM Post: 100-0 LPM
95.9 LPM 100-2 LPM
 Final: _____ LPM _____ LPM
 Time: 902 (on) 1025 (off) _____ (on) _____ (off)
 Final: 83 min.
 Volume: 8.13 L
 Comments: _____

ANALYSIS

Method: Thermal desorption
 Laboratory: WOHL
 Date: _____
 Results:
 Chemical _____ Results _____ Time _____ TWA/STEL _____
 Blank: _____

GENERAL INFORMATION

Project: DiVney IBM

Project #: 1259.002

Location: Kingston

Date: 9/12/86

Sampler: R Keenan

Employee Information:

Employee Name: _____

Social Security#: _____

Job Title: _____

Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 024
desk in office nr column D922a 024

Operation: _____

Sample Type: _____ Personal _____ Area
_____ TWA _____ STEL

Sampling for: _____
Chemical _____ TWA _____ STEL

Organics _____

Sampling Media: Charcoal

Sampling Device: _____

Sample #: 091724 BC4

Blank Sample #: _____

Draeger Tubes:

Chemical _____ Time _____ Reading _____

CONTROLS

PPE: _____

Engineering: _____

Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC

Serial/Pump #: 512552

Pump Calibration (method): GI

Pre: 203.5 LPM Post: 195.4 LPM

207.5 LPM _____ LPM

219.2 LPM _____ LPM

Final: 202.7 LPM

Time: _____

(on) 10²⁰ (off) 11³² / (on) _____ (off) _____

Final: 65 min.

Volume: 13.20 L

Comments: _____

ANALYSIS

Method: NIOSH 1500

Laboratory: _____

Date: _____

Results: _____

Chemical _____ Results _____ Time _____ TWA/STEL _____

Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Disney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 01 - Table
 Operation: Corridor near column 001 M16
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical TWA STEL
Organics _____ _____
 _____ _____
 _____ _____
 Sampling Media: Carbotrap
 Sampling Device: _____
 Sample #: 091201A
 Blank Sample #: _____
 Draeger Tubes:
 Chemical Time Reading

CONTROLS

PPE: _____

 Engineering: HVAC on since 9/11

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 514622
 Pump Calibration (method): 171
 Pre: 58.9 LPM Post: 62.2 LPM
57.5 LPM 64.3 LPM
58.3 LPM 64.3 LPM
 Final: 60.92 LPM
 Time:
 (on) 910 (off) 1050 (on) _____ (off) _____
 Final: 100 min.
 Volume: 06.10 L

ANALYSIS

Method: Thermal desorp
 Laboratory: WDHL
 Date: _____
 Results:
 Chemical Results Time TWA/STEL

 Blank: _____

Comments: _____

GENERAL INFORMATION

Project: Dioney IBM
 Project #: 1259.002
 Location: Kingston

Date: 9/12/96
 Sampler: R Keenan

Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 61-Table
Corridor near column 001M16

Operation: _____

Sample Type: _____ Personal _____ Area
 _____ TWA _____ STEL

Sampling for:
 Chemical TWA STEL
Organics _____ _____

Sampling Media: Charcoal

Sampling Device: _____

CONTROLS

PPE: _____

Engineering: _____

Comments: _____

Sample #: 091201ACH

Blank Sample #: _____

Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____

PUMP INFORMATION

Model: _____
 Serial/Pump #: _____
 Pump Calibration (method): _____

Pre: _____ LPM Post: 84.7 LPM
 _____ LPM 84.8 LPM
 _____ LPM _____ LPM

Final: 84.8 LPM

Time: (on) 1052 (off) 1215 / (on) _____ (off) _____
 Final: 83 min.
 Volume: 7.06 L

Comments: _____

WORK AREA DIAGRAM

ANALYSIS

Method: NIOSH 1500

Laboratory: _____
 Date: _____

Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 1 workstation
Test lab between cor N23 + N22
 Operation: _____
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
Organics _____

 Sampling Media: Carbotrap
 Sampling Device: _____
 Sample #: 091201-B
 Blank Sample #: _____
 Draeger Tubes:
 Chemical _____ Time _____ Reading _____

CONTROLS

PPE: _____

 Engineering: HVAC system on since 9/11

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 512551 (14)
 Pump Calibration (method): GI
 Pre: 79.5 LPM Post: 79.5 LPM
79.3 LPM 83.0 LPM
78.9 LPM 82.5 LPM
 Final: 80.5 LPM
 Time:
 (on) 9:15 (off) 10:35 / (on) _____ (off) _____
 Final: 79 min.
 Volume: 6.40 L
 Comments: _____

ANALYSIS

Method: _____
 Laboratory: _____
 Date: _____
 Results:
 Chemical _____ Results _____ Time _____ TWA/STEL _____

 Blank: _____

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.072
 Location: Kingston
 Date: 9/12/86
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 1 work station
Test Lab - Tween Col N23 + N22
 Operation: _____
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
Organics _____

 Sampling Media: Charcoal

CONTROLS

PPE: _____

 Engineering: _____

 Comments: _____

Sampling Device: _____
 Sample #: 091201BCH
 Blank Sample #: _____
 Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 512551
 Pump Calibration (method): _____
 Pre: 111.3 LPM Post: 114.8 LPM
116.5 LPM _____ LPM
111.2 LPM _____ LPM
 Final: 113.1 LPM
 Time: (on) 1037 (off) 1140 (on) _____ (off) _____
 Final: 63 min.
 Volume: 7.12 L
 Comments: _____

WORK AREA DIAGRAM

ANALYSIS

Method: _____
 Laboratory: _____
 Date: _____
 Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

 Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security#: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 003
Microwave kitchen window ledge
 Operation: part of column W/F
work
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
organics

 Sampling Media: Carbotrap
 Sampling Device: _____
 Sample #: 091203A
 Blank Sample #: _____
 Draeger Tubes:
 Chemical _____ Time _____ Reading _____

CONTROLS

PPE: _____

 Engineering: HVAC on since 9/11

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 527709 (5)
 Pump Calibration (method): G1
 Pre: 92.4 LPM Post: 111.8 LPM
93.0 LPM 112.8 LPM
92.7 LPM _____ LPM
 Final: 100.5 LPM
 Time:
 (on) 923 (off) 1042 (on) _____ (off) _____
 Final: 79 min.
 Volume: 7.90 L

ANALYSIS

Method: thermal descript.
 Laboratory: _____
 Date: _____
 Results:
 Chemical _____ Results _____ Time _____ TWA/STEL _____

 Blank: _____

Comments: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: DIVNEY BM

Project #: 1259.002

Location: Kingston

Date: 9/12/96

Sampler: R Keenan

Employee Information:

Employee Name: _____

Social Security #: _____

Job Title: _____

Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 003

Microwave kitchen window ledge

Operation: east of column W17
with

Sample Type: _____ Personal Area
_____ TWA _____ STEL

Sampling for:
Chemical _____ TWA _____ STEL
organics _____ _____

Sampling Media: Charcoal

Sampling Device: _____

Sample #: 091203ACH

Blank Sample #: _____

Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

CONTROLS

PPE: _____

Engineering: _____

Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC

Serial/Pump #: 527709 (5)

Pump Calibration (method): Gil

Pre: 169.4 LPM Post: 192.8 LPM

169.1 LPM 169.3 LPM

169.5 LPM _____ LPM

Final: 181.1 LPM

Time: (on) 1043 (off) 1146 (on) _____ (off) _____

Final: 63 min.

Volume: 11.4 L

Comments: _____

ANALYSIS

Method: NIOSH 1502

Laboratory: _____

Date: _____

Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

Blank: _____

AIR SAMPLING DATA SHEET

ERM-NORTHEAST, INC

GENERAL INFORMATION

Project: Disney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: _____
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 003 -nr Vibr Lab
Chair in Cor & from Fan Rm 10
 Operation: north of W23 column

Sample Type: _____ Personal Area
 _____ TWA _____ STEL

Sampling for:
 Chemical TWA STEL
Organics _____ _____

Sampling Media: Carbotrap

Sampling Device: _____

Sample #: 091224B

Blank Sample #: _____

Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____

CONTROLS

PPE: _____

Engineering: HVAC system on since 9/11

Comments: _____

WORK AREA DIAGRAM

Air feels warmer - blower not on for Vibr. Lab?

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 572890 (6)
 Pump Calibration (method): GI

Pre: 72.2 LPM Post: 66.9 LPM
72.4 LPM 72.1 LPM

Final: 72.3 LPM _____ LPM
71.2 LPM

Time: (on) 1046 (off) 1150 (on) _____ (off) _____

Final: ~~72~~ 72 min.
 Volume: 5.11 L

Comments: _____

ANALYSIS

Method: Thermal desopt.

Laboratory: WOTH

Date: _____

Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

Blank: _____

GENERAL INFORMATION

Project: Divney Bm
 Project #: 1259002
 Location: Kingston
 Date: 9/12/96
 Sampler: _____
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: Bldg 003 - nr Vib Lab
Chair in lobby across from Fan R10
 Operation: north of col W203
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL
Organics
 Sampling Media: Carbotrap - Charcoal
 Sampling Device: _____

CONTROLS

PPE: _____

 Engineering: _____

 Comments: _____

Sample #: 091224BC6t
 Blank Sample #: _____
 Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC
 Serial/Pump #: 512880(6)
 Pump Calibration (method): 671
 Pre: 177.8 LPM Post: 176.9 LPM
179.2 LPM 177.8 LPM
176.5 LPM _____ LPM
 Final: 177.4 LPM
 Time: (on) 1046 (off) 1150 / (on) _____ (off) _____
 Final: 64 min.
 Volume: 11.3 L

ANALYSIS

Method: NIOSH 1500
 Laboratory: _____
 Date: _____
 Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

 Blank: _____

Comments: _____

GENERAL INFORMATION

Project: Disney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: 8003 east entry
(chair)
 Operation: 3rd floor
north
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical _____ TWA _____ STEL

 Sampling Media: Casbahrap
 Sampling Device: _____

CONTROLS

PPE: _____

 Engineering: HVAC system on since 9/11

 Comments: _____

Sample #: 0912EX-A
 Blank Sample #: _____
 Draeger Tubes:

Chemical	Time	Reading

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC 527426
 Serial/Pump #: _____
 Pump Calibration (method): _____
 Pre: 63.4 LPM Post: 66.2 LPM
63.7 LPM 68.3 LPM
66.2 63.6 LPM 68.3 LPM
 Final: 66.3 LPM
 Time:
 (on) 9:44 (off) 11:07 (on) 83 (off) _____
 Final: 83 min.
 Volume: 8.13 L

ANALYSIS

Method: _____
 Laboratory: _____
 Date: _____
 Results:

Chemical	Results	Time	TWA/STEL

 Blank: _____

Comments: _____

GENERAL INFORMATION

Project: Disney IBM
 Project #: 1259.002
 Location: Kington
 Date: 9/12/86
 Sampler: R Keenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: B003 east entry
(chain)
 north ~~side~~ of Z3a 003
 Operation: _____
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical TWA STEL

 Sampling Media: Charcoal
 Sampling Device: _____

Sample #: 0912 EXACT
 Blank Sample #: _____
 Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

CONTROLS

PPE: _____

 Engineering: _____

 Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC 527426
 Serial/Pump #: _____
 Pump Calibration (method): _____
 Pre: 91.1 LPM Post: 96.2 LPM
91.3 LPM _____ LPM
91.2 LPM _____ LPM
 Final: 93.7 LPM
 Time: _____
 (on) 1105 (off) 1206 (on) _____ (off) _____
 Final: _____ min.
 Volume: 5.45 L

ANALYSIS

Method: NIOSH 1500
 Laboratory: _____
 Date: _____
 Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

 Blank: _____

Comments: _____

GENERAL INFORMATION

Project: Divney IBM
 Project #: 1259.002
 Location: Kingston
 Date: 9/12/96
 Sampler: R Kenan
 Employee Information:
 Employee Name: _____
 Social Security #: _____
 Job Title: _____
 Comments: _____

SAMPLING INFORMATION

Area of Concern: B0035 M-5
South entry to B003, east of W26
 Operation: _____
 Sample Type: _____ Personal Area
 _____ TWA _____ STEL
 Sampling for:
 Chemical TWA STEL
Organics _____

 Sampling Media: Carbotrap
 Sampling Device: _____

CONTROLS

PPE: _____

 Engineering: _____

 Comments: Lawn mowers in operation
in vicinity; idling truck
present for a while

Sample #: 0912EXB
 Blank Sample #: _____
 Draeger Tubes:

Chemical	Time	Reading
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

PUMP INFORMATION

Model: SKC 527050(8)
 Serial/Pump #: _____
 Pump Calibration (method): Gil
 Pre: 71.1 LPM Post: 71.5 LPM
70.8 LPM 71.8 LPM
70.2 LPM _____ LPM
 Final: 71.1 LPM
 Time: _____
 (on) 9:52 (off) 11:20 (on) _____ (off) _____
 Final: 87 min.
 Volume: 6.18 L

WORK AREA DIAGRAM

ANALYSIS

Method: Thermal desorp.
 Laboratory: _____
 Date: _____
 Results:

Chemical	Results	Time	TWA/STEL
_____	_____	_____	_____
_____	_____	_____	_____

 Blank: _____

Comments: _____

GENERAL INFORMATION

Project: Dioney IBM

Project #: 1259.002

Location: Kingston

Date: 9/12/96

Sampler: R Keenan

Employee Information:

Employee Name: _____

Social Security #: _____

Job Title: _____

Comments: _____

SAMPLING INFORMATION

Area of Concern: B0035 m-5

South entry to B003

Operation: east of W26

Sample Type: _____ Personal Area
_____ TWA _____ STEL

Sampling for:
Chemical _____ TWA _____ STEL
Organic s _____

Sampling Media: Charcoal

Sampling Device: _____

Sample #: 0912 EXBCH

Blank Sample #: _____

Draeger Tubes:

Chemical	Time	Reading

CONTROLS

PPE: _____

Engineering: _____

Comments: _____

WORK AREA DIAGRAM

PUMP INFORMATION

Model: SKC 527050

Serial/Pump #: _____

Pump Calibration (method): GI1

Pre: 136.8 LPM Post: 139.6 LPM

137.2 LPM _____ LPM

136.7 LPM _____ LPM

Final: 138.3 LPM

Time: (on) 1121 (off) 1154 (on) _____ (off) _____

Final: 33 min.

Volume: 4.55 L

Comments: _____

ANALYSIS

Method: NIOSH 1500

Laboratory: _____

Date: _____

Chemical	Results	Time	TWA/STEL

Blank: _____

CLIENT/PROJECT: Kingston IAC IBM Buildings
 PROJECT #: 1257-002
 SAMPLING LOCATION: Bldg 24, 001, 003 + exterior
 SAMPLING DATE: 9/12/96
 SAMPLER: Keenan

ANALYTE: Organic Screen
 SAMPLING METHOD: Canool for Carbotrap
 MEDIA: Charcoal

PRE-CALIBRATION DATA				POST-CALIBRATION DATA					
PUMP ID.	#1	#2	#3	AVERAGE	PUMP ID.	#1	#2	#3	AVERAGE
527449									136.9
512552									202.7
514622									84.8
512551									113.1
527709									181.1
512890									172.4
527426									93.7
527650									138.3

SAMPLE INFORMATION: ...

PUMP ID.	SAMPLE ID.	S.S.#	START	STOP	TOTAL TIME (MIN)	TOTAL VOL. (LITER)	SUBJECT
527449	091224ACH		1024	1121	65	8.91	
512552	091224BCH		1026	1132	65	13.20	See Carbotrap sheet
514622	091201ACH		1052	1211	83	7.06	
512551	091201BCH		1037	1140	63	7.12	
527709	091203ACH		1043	1146	63	11.40	
512890	091203BCH		1046	1150	64	11.33	
527426	0912EXAM1		1108	1206	58	5.45	
527650	0912EX1BCH		1121	1154	33	4.55	

COMMENTS:

1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8

CLIENT/PROJECT: Kington 1A0 - IBM Building
 PROJECT #: 1254008
 SAMPLING LOCATION: Bldg 24, 01, 03 + exterior
 SAMPLING DATE: 9/12/96
 SAMPLER: Keison

ANALYTE: Organic Screen
 SAMPLING METHOD: Thermal description
 MEDIA: Cartridges

PRE-CALIBRATION DATA				POST-CALIBRATION DATA			
PUMP ID.	#1	#2	AVERAGE	PUMP ID.	#1	#2	AVERAGE
1	78.1	78.2	78.2	1	78.2	79.0	78.6
2	95.2	95.9		2	100.0	100.2	97.8
3	57.5	58.3		3	62.2	64.3	60.92
4	79.5	78.9		4	79.5	83.0	80.5
5	92.4	92.7		5	111.8	112.8	100.5
6	72.2	72.3		6	66.9	72.1	71.2
7	63.4	63.6		7	66.2	68.3	66.3
8	76.1	76.2		8	71.5	71.8	71.1

SAMPLE INFORMATION		SUBJECT		TOTAL			
PUMP ID.	SAMPLE ID.	SAMPLED	SS-I	START	STOP	TIME (MIN)	VOL. (LITER)
1	091224A	Bldg 24	091224-24	8:56	10:22	86	6.78
2	091224B		091224-24	9:02	10:55	83	8.13
3	091201A	Bldg 01	091201M16	9:10	10:50	100	6.00
4	091201B		091201N22	9:15	10:35	79	6.40
5	091203A	Bldg 03	091203	9:23	10:42	79	7.90
6	091203B		091203	9:33	10:45	72	5.11
7	0912EXA	Bldg Exterior	Exterior	9:47	11:07	83	5.48
8	0912EXB		Exterior	9:52	11:20	87	6.18

COMMENTS:

WISCONSIN OCCUPATIONAL HEALTH LABORATORY (WOHL) SAMPLE SUBMISSION FORM

Bill To ERM Northeast Inc Contact Person Regina Keena Send Results To _____
501 New Kainer Rd 57 Phone 518-452-4291 _____
Albany NY 12205 Sampling Date 9/12/96 _____
P.O. # 1 WOHL COMP # 1686 Phone 518-452-4295
Project 1259.002 PRIORITY NORMAL FAX _____

Turnaround Time (Please Circle): RUSH NORMAL
 COMMENTS

•Rush and priority requests must be prearranged.

•PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. •

FOR WOHL USE ONLY		CUSTOMER	SAMPLING MEDIA	TIME ON	TIME OFF	TOTAL (MIN)	FLOW RATE	VOLUME	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS
CODE #	LAB #	FIELD #							
		0912	Parathion			100		0.061	Organic Screen
		01A				79		0.081	Thermal desorption
		0912				79		0.100	
		03A				72		0.071	
		0912				86		0.079	
		03B				83		0.098	
		0912				83		0.066	
		24A				87		0.071	
		0912							
		24B							
		0912							
		EXA							
		0912							
		EXB							

Flow rate

CHAIN OF CUSTODY: Relinquished Regina Keena Date 9/2/96 Received _____ Date _____

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab
 979 Jonathon Drive
 Madison, WI 53713
 Phone 608 263-6550
 FAX 608-263-6551

(WISCONSIN OCCUPATIONAL HEALTH LAB TORY (WOHL) SAMPLE SUBMISSION FORM (

Bill To ERM Northeast Inc Contact Person Regina Keenan Send Results To _____
501 New Kinner Rd S7 Phone SIP-452-4291
Albany NY 12205 Sampling Date 9/12/96 Phone _____
P.O. # 1259.002 WOHL COMP # 1686 **FAX** SIP-452-4295

Turnaround Time (Please Circle): **NORMAL** RUSH PRIORITY

★COMMENTS★

● PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. ●

FOR WOHL USE ONLY		CUSTOMER	SAMPLING MEDIA	TIME ON	TIME OFF	TOTAL TIME (MIN)	FLOW RATE (LITERS)	VOLUME (L)	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS
CODE #	LAB #	FIELD #							
		Trip Blank	Corbstrap	Blank					Organic screen
		0912 CHBL	Charcoal Blank	Blank					

CHAIN OF CUSTODY: Relinquished Regina Keenan Date 9/12/96 Received _____ Date _____

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab
 979 Jonathon Drive
 Madison, WI 53713
 Phone 608 263-6550
 800 446-0403
 FAX 608-263-6551

WISCONSIN OCCUPATIONAL HEALTH LABORATORY (WOHL) SAMPLE SUBMISSION FORM

Bill To ERM Northeast Inc Contact Person Regina Keenan Send Results To _____
501 New Karner Rd S7 Phone 518-452-4291 _____
Albany NY 12205 Sampling Date 9/12/86 Phone 518-452-4295
P.O. # _____ WOHL COMP # 1686 **FAX**
Project 1259.002 PRIORITY NORMAL •Rush and priority requests must be prearranged.

Corrected - fixed 9/13/86

•PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. •

FOR WOHL USE ONLY		CUSTOMER	SAMPLING MEDIA	TIME		TOTAL FLOW RATE	VOLUME (LITERS)	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS	
CODE #	LAB #			ON	OFF				
		0912	Charcoal			83	085	7.06	Organic Screen for
		01AP11				63	113	7.12	Parathion
		0912				63	181	11.40	
		03AC11				64	177	11.33	
		0912				63	137	8.91	
		24AC11				63	203	13.20	
		0912				63	094	5.45	
		EXAC11				33	138	4.55	
		0912							

CHAIN OF CUSTODY: Relinquished Regina Keenan Date 9/12/86 Received _____ Date _____

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab Phone 608 263-6550
979 Jonathon Drive 800 446-0403
Madison, WI 53713 FAX 608-263-6551

(WISCONSIN OCCUPATIONAL HEALTH LABORATORY (WOHL) SAMPLE SUBMISSION FORM)

Bill To ERM Northeast Inc Contact Person Regina Keenan Send Results To _____
501 New Kerner Rd S7 Phone 518-452-4291
Albany NY 12205 Sampling Date 9/12/86 Phone 518-452-4295
P.O. # _____ WOHL COMP # 1686 FAX _____
Project 1259.002 PRIORITY NORMAL **• Rush and priority requests must be prearranged.**

Turnaround Time (Please Circle): NORMAL
COMMENTS NO T

• PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. •

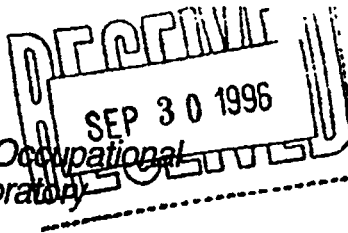
FOR WOHL USE ONLY		CUSTOMER	SAMPLING MEDIA	TIME ON	TIME OFF	TOTAL TIME (MIN)	FLOW RATE (GPM)	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS
CODE #	LAB #							
		0912 DIACH	Charcoal			83	0.067	Organic screen 5.06
		0912 DIACH				63	0.081	for Carbotrap 5.10
		0912 DIACH				63	0.100	for run 6.30
		0912 DIACH				64	0.071	4.54
		0912 DIACH				65	0.079	5.14
		0912 DIACH				65	0.098	6.37
		0912 EXACH				58	0.066	3.83
		0912 EXACH				33	0.071	2.34

CHAIN OF CUSTODY: Relinquished Regina Keenan Date 9/12/86 Received 6.18 Date _____

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab
 979 Jonathon Drive
 Madison, WI 53713
 Phone 608 263-6550
 800 446-0403
 FAX 608-263-6551



Wisconsin Occupational
Health Laboratory



979 Jonathon Drive
Madison, WI 53713-3226
Phone: (608) 263-6550
FAX: (608) 263-6551

Wisconsin State Laboratory of Hygiene

University of Wisconsin

September 27, 1996

ERM Northeast Inc.
501 New Karner Rd.57
Albany, NY. 12205

Company #: 1686

Thermal Desorption Analysis

Nine samples (only five of which were analyzed due to instrument breakdown) were submitted to the Wisconsin Occupational Health Lab for thermal desorption analysis. Samples were analyzed using a modified T014 method. Sample tubes were heated and analyte vapors were collected onto a special trap. The trap was heated and analyte vapors were collected and separated using gas chromatography/mass spectrometry (GC/MS).

The mass spectrometer was calibrated for a compound range up to 1000ng. Compounds which exceed this range are indicated by the comment "Exceeds calibration." Compounds which were not detected appear in the (total ng/tube) column, with a < MQL value. Compounds which were detected below the MQL are indicated by the comment "quantitation estimated."

If you have any questions concerning this report, please feel free to contact us at 608-263-6550.

Ken christensen / Mark Mieritz (analysts):

Steve Strebel (supervisor):

Thermal Desorption Results for ERM Northeast Inc.

SAMPLE NUMBER 598493
 FIELD NUMBER : 0912 01A

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 4	< 1	25	
acetone	< 25	< 4	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 4	< 1	25	
methylchloroform	< 25	< 4	< 1	25	
methyl ethyl ketone	< 25	< 4	< 1	25	
isopropanol	< 25	< 4	< 2	25	
ethanol	< 25	< 4	< 2	25	
methylene chloride	< 25	< 4	< 1	25	
benzene	< 25	< 4	< 1	25	
trichloroethylene	3	0.5	0.1	25	quantitation estimated
a-pinene	< 25	< 4	< 1	25	
chloroform	< 25	< 4	< 1	25	
perchloroethylene	2	0.3	0.05	25	quantitation estimated
toluene	26	4	1	25	
b-pinene	< 25	< 4	< 1	25	
ethyl benzene	4	1	0.2	25	quantitation estimated
n-butanol	< 25	< 4	< 1	25	
xylene total	18	3	1	75	quantitation estimated
d-limonene	< 25	< 4	< 1	25	
propylbenzene	< 25	< 4	< 1	25	
styrene	1	0.2	0.04	25	quantitation estimated
cellosolve	29	5	1	25	

SAMPLE NUMBER 598495
 FIELD NUMBER : 0912 03A

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 3	< 1	25	
acetone	< 25	< 3	< 1	25	
1,2-dichloroethylene (trans)	< 25	< 3	< 1	25	
methylchloroform	< 25	< 3	< 1	25	
methyl ethyl ketone	< 25	< 3	< 1	25	
isopropanol	< 25	< 3	< 1	25	
ethanol	< 25	< 3	< 2	25	
methylene chloride	< 25	< 3	< 1	25	
benzene	< 25	< 3	< 1	25	
trichloroethylene	7	1	0.2	25	quantitation estimated
a-pinene	8	1	0.2	25	quantitation estimated
chloroform	< 25	< 3	< 1	25	
perchloroethylene	4	1	0.1	25	quantitation estimated
toluene	45	6	2	25	
b-pinene	47	6	1	25	
ethyl benzene	5	1	0.1	25	quantitation estimated
n-butanol	< 25	< 3	< 1	25	
xylene total	24	3	1	75	quantitation estimated
d-limonene	< 25	< 3	< 1	25	
propylbenzene	4	1	0.1	25	quantitation estimated
cellosolve	2	0.3	0.1	25	quantitation estimated
cellosolve	47	6	1	25	

THEMAL DESORPTION RESULTS FOR ERM NORTHEAST INC.

SAMPLE NUMBER 598496

FIELD NUMBER : 0912 03B

compound	total ng/tube	ug/m3	ppb	ML (NG)	COMMENTS
n-hexane	< 25	< 5	< 1	25	
acetone	< 25	< 5	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 5	< 1	25	
methylchloroform	< 25	< 5	< 1	25	
methyl ethyl ketone	< 25	< 5	< 2	25	
isopropanol	< 25	< 5	< 2	25	
ethanol	< 25	< 5	< 3	25	
methylene chloride	< 25	< 5	< 1	25	
benzene	< 25	< 5	< 2	25	
trichloroethylene	< 25	< 5	< 1	25	
a-pinene	4	1	0.1	25	quantitation estimated
chloroform	< 25	< 5	< 1	25	
perchloroethylene	< 25	< 5	< 1	25	
toluene	15	3	1	25	quantitation estimated
b-pinene	20	4	1	25	quantitation estimated
ethyl benzene	2	0.4	0.1	25	quantitation estimated
n-butanol	< 25	< 5	< 2	25	
xylene total	10	2	0.4	75	quantitation estimated
d-limonene	< 25	< 5	< 1	25	
propylbenzene	2	0.4	0.1	25	quantitation estimated
styrene	< 25	< 5	< 1	25	
butyl cellosolve	20	4	1	25	quantitation estimated

SAMPLE NUMBER 598497

FIELD NUMBER : 0912 24A

compound	total ng/tube	ug/m3	ppb	ML (NG)	COMMENTS
n-hexane	< 25	< 4	< 1	25	
acetone	< 25	< 4	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 4	< 1	25	
methylchloroform	< 25	< 4	< 1	25	
methyl ethyl ketone	< 25	< 4	< 1	25	
isopropanol	< 25	< 4	< 2	25	
ethanol	< 25	< 4	< 2	25	
methylene chloride	< 25	< 4	< 1	25	
benzene	< 25	< 4	< 1	25	
trichloroethylene	< 25	< 4	< 1	25	
a-pinene	8	1	0.2	25	quantitation estimated
chloroform	< 25	< 4	< 1	25	
perchloroethylene	< 25	< 4	< 1	25	
toluene	43	6	2	25	
b-pinene	54	8	1	25	
ethyl benzene	4	1	0.1	25	quantitation estimated
n-butanol	< 25	< 4	< 1	25	
xylene total	16	2	0.5	75	quantitation estimated
d-limonene	< 25	< 4	< 1	25	
propylbenzene	2	0.3	0.1	25	quantitation estimated
styrene	2	0.3	0.1	25	quantitation estimated
butyl cellosolve	44	6	1	25	

THERMAL DESORPTION RESULTS FOR ERM NORTHEAST INC.

SAMPLE NUMBER 598498
 FIELD NUMBER : 0912 24B

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 3	< 1	25	
acetone	< 25	< 3	< 1	25	
1,2-dichloroethylene (trans)	< 25	< 3	< 1	25	
methylchloroform	< 25	< 3	< 1	25	
methyl ethyl ketone	< 25	< 3	< 1	25	
isopropanol	< 25	< 3	< 1	25	
ethanol	< 25	< 3	< 2	25	
methylene chloride	< 25	< 3	< 1	25	
benzene	< 25	< 3	< 1	25	
trichloroethylene	< 25	< 3	< 1	25	
a-pinene	6	1	0.1	25	quantitation estimated
chloroform	< 25	< 3	< 1	25	
perchloroethylene	2	0.2	0.04	25	quantitation estimated
toluene	41	5	1	25	
b-pinene	< 25	< 3	< 1	25	
ethyl benzene	4	0.5	0.1	25	quantitation estimated
n-butanol	< 25	< 3	< 1	25	
xylene total	15	2	0.4	75	quantitation estimated
d-limonene	< 25	< 3	< 1	25	
propylbenzene	2	0.2	0.1	25	quantitation estimated
styrene	2	0.2	0.1	25	quantitation estimated
1,1,1-trichloroethane	38	5	1	25	

WISCONSIN OCCUPATIONAL HEALTH LABORATORY (WOHL) SAMPLE SUBMISSION FORM

Bill To ERM Northeast Inc Contact Person Regina Keene Send Results To _____
501 New Karner Rd S7 Phone 518-452-4291
Albany NY 12205 Sampling Date 9/12/96 Phone 518-452-4295
P.O. # _____ WOHL COMP # 1686 FAX _____
Project 25902 PRIORITY NORMAL

Turnaround Time (Please Circle): RUSH NORMAL
★COMMENTS★

•Rush and priority requests must be prearranged.

•PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. •

FOR WOHL USE ONLY		CUSTOMER	SAMPLING	TIME	TIME	TOTAL	FLOW	ANALYSIS REQUESTED &
CODE #	LAB #	FIELD #	MEDIA	ON	OFF	(MIN)	RATE	(L) SPECIAL INSTRUCTIONS
<u>598493</u>		<u>0912</u>	<u>Carbocap</u>			<u>100</u>	<u>0.061</u>	<u>Organic Screen</u>
		<u>01A</u>						
<u>598494</u>		<u>0912</u>				<u>79</u>	<u>0.081</u>	<u>Thermal</u>
		<u>01B</u>						<u>desorption</u>
<u>598495</u>		<u>0912</u>				<u>79</u>	<u>0.100</u>	
		<u>03A</u>						
<u>598496</u>		<u>0912</u>				<u>72</u>	<u>0.071</u>	
		<u>03B</u>						
<u>598497</u>		<u>0912</u>				<u>86</u>	<u>0.079</u>	
		<u>24A</u>						
<u>598498</u>		<u>0912</u>				<u>83</u>	<u>0.098</u>	
		<u>24B</u>						
<u>598499</u>		<u>0912</u>				<u>83</u>	<u>0.066</u>	
		<u>EXA</u>						
<u>598500</u>		<u>0912</u>				<u>87</u>	<u>0.071</u>	
		<u>EXB</u>						

Flow rate

CHAIN OF CUSTODY: Relinquished Regina Keene Date 9/2/96 Received DMG/ary Date 9-13-96

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab
979 Jonathon Drive
Madison, WI 53713
Phone 608 263-6550
800 446-0403
FAX 608-263-6551

(WISCONSIN OCCUPATIONAL HEALTH LAB (WOHL) SAMPLE SUBMISSION FORM (

Bill To ERM Northeast Inc Contact Person _____ Send Results To _____
501 New Kame Rd S7 Regina Keenan
Albany NY 12205 Phone 518-452-4291
 P.O. # _____ Sampling Date 9/12/86 Phone _____
 Project 1253.002 WOHL COMP # 1686 FAX 518-452-4295

Turnaround Time (Please Circle): **RUSH** **PRIORITY** **NORMAL**

★COMMENTS★

PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS.

CODE #	FOR WOHL USE ONLY		CUSTOMER	SAMPLING MEDIA	TIME ON	TIME OFF	TOTAL TIME (MIN)	FLOW RATE (LITERS)	VOLUME (L)	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS	
	LAB #	FIELD #									
59712	598501		Trip Blank	Perbotrap	Blank						Organic screen
			0912 CHBL	Charcoal	Blank						

CHAIN OF CUSTODY: Relinquished Regina Keenan Date 9/12/86 Received AMG Date 9-13-96

MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab
 979 Jonathon Drive
 Madison, WI 53713
 Phone 608 263-6550
 800 446-0403
 FAX 608-263-6551

THE THERMAL DESORPTION RESULTS FOR ERM NORTHEAST INC.

OCT 18 1996

SAMPLE NUMBER 598493
FIELD NUMBER : 0912 01A

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 4	< 1	25	
acetone	< 25	< 4	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 4	< 1	25	
methylchloroform	4	1	0.1	25	quantitation estimated
methyl ethyl ketone	< 25	< 4	< 1	25	
isopropanol	< 25	< 4	< 2	25	
ethanol	< 25	< 4	< 2	25	
methylene chloride	< 25	< 4	< 1	25	
benzene	< 25	< 4	< 1	25	
trichloroethylene	3	0.5	0.1	25	quantitation estimated
a-pinene	< 25	< 4	< 1	25	
chloroform	< 25	< 4	< 1	25	
perchloroethylene	2	0.3	0.05	25	quantitation estimated
toluene	26	4	1	25	
b-pinene	< 25	< 4	< 1	25	
ethyl benzene	4	1	0.2	25	quantitation estimated
n-butanol	< 25	< 4	< 1	25	
xylene total	18	3	1	75	quantitation estimated
d-limonene	< 25	< 4	< 1	25	
propylbenzene	< 25	< 4	< 1	25	
styrene	1	0.2	0.04	25	quantitation estimated
butyl cellosolve	29	5	1	25	
1,1-dichloroethane	< 25	< 4	< 1	25	
1,2-dichloroethane	< 25	< 4	< 1	25	

SAMPLE NUMBER 598495
FIELD NUMBER : 0912 03A

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 3	< 1	25	
acetone	< 25	< 3	< 1	25	
1,2-dichloroethylene (trans)	< 25	< 3	< 1	25	
methylchloroform	8	1	0.2	25	quantitation estimated
methyl ethyl ketone	< 25	< 3	< 1	25	
isopropanol	< 25	< 3	< 1	25	
ethanol	< 25	< 3	< 2	25	
methylene chloride	< 25	< 3	< 1	25	
benzene	< 25	< 3	< 1	25	
trichloroethylene	7	1	0.2	25	quantitation estimated
a-pinene	8	1	0.2	25	quantitation estimated
chloroform	< 25	< 3	< 1	25	
perchloroethylene	4	1	0.1	25	quantitation estimated
toluene	45	6	2	25	
b-pinene	47	6	1	25	
ethyl benzene	5	1	0.1	25	quantitation estimated
n-butanol	< 25	< 3	< 1	25	
xylene total	24	3	1	75	quantitation estimated
d-limonene	< 25	< 3	< 1	25	
propylbenzene	4	1	0.1	25	quantitation estimated
styrene	2	0.3	0.1	25	quantitation estimated
butyl cellosolve	47	6	1	25	
1,1-dichloroethane	< 25	< 4	< 1	25	
1,2-dichloroethane	< 25	< 4	< 1	25	

THEMAL DESORPTION RESULTS FOR ERM NORTHEAST INC.

LE NUMBER 598496
 FIELD NUMBER : 0912 03B

compound	total ng/tube	ug/m3	ppb	ML (NG)	COMMENTS
n-hexane	< 25	< 5	< 1	25	
acetone	< 25	< 5	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 5	< 1	25	
methylchloroform	< 25	< 5	< 1	25	
methyl ethyl ketone	< 25	< 5	< 2	25	
isopropanol	< 25	< 5	< 2	25	
ethanol	< 25	< 5	< 3	25	
methylene chloride	< 25	< 5	< 1	25	
benzene	< 25	< 5	< 2	25	
trichloroethylene	< 25	< 5	< 1	25	
a-pinene	4	1	0.1	25	quantitation estimated
chloroform	< 25	< 5	< 1	25	
perchloroethylene	< 25	< 5	< 1	25	
toluene	15	3	1	25	quantitation estimated
b-pinene	20	4	1	25	quantitation estimated
ethyl benzene	2	0.4	0.1	25	quantitation estimated
n-butanol	< 25	< 5	< 2	25	
xylene total	10	2	0.4	75	quantitation estimated
d-limonene	< 25	< 5	< 1	25	
propylbenzene	2	0.4	0.1	25	quantitation estimated
styrene	< 25	< 5	< 1	25	
butyl cellosolve	20	4	1	25	quantitation estimated
1,1-dichloroethane	< 25	< 4	< 1	25	
1,2-dichloroethane	< 25	< 4	< 1	25	

LE NUMBER 598497
 FIELD NUMBER : 0912 24A

compound	total ng/tube	ug/m3	ppb	ML (NG)	COMMENTS
n-hexane	< 25	< 4	< 1	25	
acetone	< 25	< 4	< 2	25	
1,2-dichloroethylene (trans)	< 25	< 4	< 1	25	
methylchloroform	6	1	0.2	25	quantitation estimated
methyl ethyl ketone	< 25	< 4	< 1	25	
isopropanol	< 25	< 4	< 2	25	
ethanol	< 25	< 4	< 2	25	
methylene chloride	< 25	< 4	< 1	25	
benzene	< 25	< 4	< 1	25	
trichloroethylene	< 25	< 4	< 1	25	
a-pinene	8	1	0.2	25	quantitation estimated
chloroform	< 25	< 4	< 1	25	
perchloroethylene	< 25	< 4	< 1	25	
toluene	43	6	2	25	
b-pinene	54	8	1	25	
ethyl benzene	4	1	0.1	26	quantitation estimated
n-butanol	< 25	< 4	< 1	25	
xylene total	16	2	0.5	75	quantitation estimated
d-limonene	< 25	< 4	< 1	25	
propylbenzene	2	0.3	0.1	25	quantitation estimated
styrene	2	0.3	0.1	25	quantitation estimated
butyl cellosolve	44	6	1	25	
1,1-dichloroethane	< 25	< 4	< 1	25	
1,2-dichloroethane	< 25	< 4	< 1	25	

Thermal Desorption Results for ERM Northeast Inc.

SAMPLE NUMBER 598498
 FIELD NUMBER : 0912 24B

compound	total ng/tube	ug/m3	ppb	MQL (NG)	COMMENTS
n-hexane	< 25	< 3	< 1	25	
acetone	< 25	< 3	< 1	25	
1,2-dichloroethylene (trans)	< 25	< 3	< 1	25	
methylchloroform	< 25	< 3	< 1	25	
methyl ethyl ketone	< 25	< 3	< 1	25	
isopropanol	< 25	< 3	< 1	25	
ethanol	< 25	< 3	< 2	25	
methylene chloride	< 25	< 3	< 1	25	
benzene	< 25	< 3	< 1	25	
trichloroethylene	< 25	< 3	< 1	25	
a-pinene	6	1	0.1	25	quantitation estimated
chloroform	< 25	< 3	< 1	25	
perchloroethylene	2	0.2	0.04	25	quantitation estimated
toluene	41	5	1	25	
b-pinene	< 25	< 3	< 1	25	
ethyl benzene	4	0.5	0.1	25	quantitation estimated
n-butanol	< 25	< 3	< 1	25	
xylene total	15	2	0.4	75	quantitation estimated
d-limonene	< 25	< 3	< 1	25	
propylbenzene	2	0.2	0.1	25	quantitation estimated
styrene	2	0.2	0.1	25	quantitation estimated
butyl cellosolve	38	5	1	25	
1,1-dichloroethane	< 25	< 4	< 1	25	
1,2-dichloroethane	< 25	< 4	< 1	25	

(WISCONSIN OCCUPATIONAL HEALTH LAB (WOHL) SAMPLE SUBMISSION FORM)

Bill To ERM Northwest Inc Contact Person Regina Keenan Send Results To _____
501 New Karner Rd St Phone 518-452-4291
Albany NY 12205 Sampling Date 9/12/96 Phone 518-452-4295
 P.O. # _____ WOHL COMP # 1686 **(FAX)**
 Project 1259.002 **(NORMAL)** **• Rush and priority requests must be prearranged.**

Corrected - faxed 9/13/96

• PLEASE GROUP SAMPLES BY MEDIA USED AND ANALYSIS REQUESTED. BULK AND WIPE SAMPLES SHOULD NOT BE COLLECTED IN PLASTIC BAGS. •

FOR WOHL USE ONLY		CUSTOMER	SAMPLING	TIME	TIME	TOTAL	FLOW	VOLUME	ANALYSIS REQUESTED & SPECIAL INSTRUCTIONS
CODE #	LAB #	FIELD #	MEDIA	ON	OFF	(MIN)	RATE (LITERS)	(LITERS)	
		0912	Charcoal			83	.085	7.06	Organic Screen for
		0912				63	.113	7.12	Carb-trap
		0912				63	.181	11.40	
		0912				64	.177	11.33	
		0912				63	.137	8.91	
		0912				63	.203	13.20	
		0912				63	.074	5.45	
		0912				33	.138	4.55	✓

CHAIN OF CUSTODY: Relinquished Regina Keenan Date 9/12/96 Received _____ Date _____
 MAIL SAMPLES AND FORM TO: Wisconsin Occupational Health Lab Phone 608 263-6550
 979 Jonathon Drive 800 446-0403
 Madison, WI 53713 FAX 608-263-6551



LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

*Ulster Business Complex
Kingston, New York*

November 1997

Prepared for:

ALAN GINSBERG
AG Properties of Kingston, LLC
25 Martine Avenue
White Plains, New York 10606

Prepared by:

ERM-NORTHEAST, INC.
421 New Karner Road
Albany, New York 12205



ERM



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ENVIRONMENTAL SITE
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ERM-NORTHEAST, INC.
421 New Karner Road
Albany, New York 12205



ERM-Northeast

421 New Karner Road
Albany, NY 12205
(518) 452-4291
(518) 452-4295 (Fax)

14 November 1997

Mr. Alan Ginsberg
AG Properties of Kingston, LLC
25 Martine Avenue
White Plains, New York 10606



RE: Report on Limited Phase II Activities
Former IBM Kingston, New York Facility
(Ulster Business Complex)
ERM-Northeast Project No. 1259.006

Dear Mr. Ginsberg:

Environmental Resources Management (ERM) conducted limited Phase II activities at the former IBM Kingston, New York facility, hereafter referred to as the Ulster Business Complex (UBC), on 7 and 8 October, 1997. The limited Phase II activities were performed in accordance with ERM's proposal dated 11 September 1997.

The results of ERM's efforts are summarized in tabular format (Attachment A) following the same task outline as listed in the original proposal.

Task 1 - Inspection/Review/Confirmation Activities

As presented in the attached Table 1 (Attachment A), Task 1 involved inspection of several areas of the UBC where issues of potential environmental concern had been identified during ERM's 1996 Phase I assessment. The intent of this portion of Task 1 was to confirm that IBM had addressed these issues.

As an additional part of Task 1, ERM was to review IBM's documentation regarding the issues presented in the attached Table 2 (Attachment A). Unfortunately, many of the records requested for review by ERM were either unavailable or no longer exist.

Task 2 - Regulatory Assessment Activities

Task 2 required ERM to perform an applicability review of the NYSDEC petroleum bulk storage regulations and chemical bulk storage regulations



which are in effect at the time of ownership transfer. Assuming that the date is 1 December 1997, the following will be the obligations of the new owner/operator of existing petroleum and chemical storage tanks (other than those tanks which have been properly closed). Note that no closure documentation exists for the two tanks which are believed to exist beneath buildings B035 and B036. However, as IBM has identified these two tanks as being present and having been closed, it is assumed that IBM will retain responsibility for these two tanks.



**PETROLEUM STORAGE TANKS (ABOVE OR BELOW GROUND)
6NYCRR Part 612, 613 and 614.**

1. Tanks must all be registered within 30 days prior to ownership transfer;
2. If the facility has over 400,000 gallons in aboveground storage, the facility will need to renew its Major Oil Storage Facility (MOSF) license with NYSDEC. Requirements of that license would take precedence over any of the following;
3. The registration certificate must be displayed on the premises;
4. Registration fees must be paid;
5. Inventory records must be maintained;
6. Tanks must be inspected daily, monthly, annually or at other intervals, depending on the tank's location, construction material and age;
7. Tanks and fill ports must be properly labeled;
8. Registration renewal is every 5 years;
9. The entire facility must have an updated Spill Prevention Control and Countermeasure (SPCC) plan. Requirements of the plan will include annual spill response training of personnel, inspections and recordkeeping;
10. Required records must be kept from 3 to 10 years, depending on the record.

CHEMICAL STORAGE TANKS (ABOVE OR BELOW GROUND)
6NYCRR Part 595, 596, 596, 598 and 599.

1. The facility is not known to have any regulated tanks. The size threshold is 185 gallons or greater for applicability.

Task 3 - Sampling and Analysis of Hydraulic Equipment Reservoirs

This task required ERM to sample 66 known pieces of hydraulic equipment at the UBC. The equipment identification, sampling results and comments are provided in Table 4, in Attachment A. A total of 21 samples could safely be taken from a total of 66 identified pieces of equipment. All samples had nondetectable levels of PCBs. Equipment which could not be sampled, and the areas around the equipment (floors, walls, sumps, etc.), were visually inspected for signs of leakage. A copy of the analytical report is included as Attachment B to this report. The locations of the remaining pieces of hydraulic equipment at the UBC are presented on Figure 1 in Attachment C.

Since none of the sampled equipment contained PCBs, draining and refilling this equipment due to PCB content is not required. Those pieces of equipment which were noted to be leaking should be repaired as part of site maintenance activities.

Task 4 - Reporting

This task required ERM to provide a summary report of the Phase II effort and to make recommendations as appropriate. This letter report serves to address the Task 4 requirements.

UNRESOLVED ISSUES

The following issue remains unresolved after the completion of the limited Phase II activities:

- The existence of the potential disposal area southwest of the Salt Barn remains an issue. According to IBM, no visible evidence was apparent in 1993 aerial photography. ERM's re-review of the subject photograph, and statements made by Mr. Dick Coller, confirm that disposal of C&D materials may have occurred in this area. Mr. Coller is an employee of Grubb and Ellis, the firm presently responsible for the site's property management. Mr. Coller formerly worked for IBM at the site. The area is currently heavily overgrown and was not easily accessible in 1997.



RECOMMENDATIONS

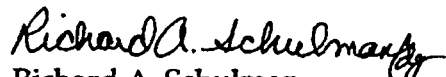
As a result of ERM's limited Phase II activities at the UBC, we have developed the following recommendations for the new owner of the facility:

1. The UBC should develop a storage tank management plan to address all the regulatory requirements associated with each tank still in operation or to be closed in the near term. ERM identified 13 aboveground storage tanks and eight (8) underground storage tanks that are or are reported to remain at the UBC site. Such a plan will establish the operational and recordkeeping requirements specific to each tank. Such a plan would include the requirements of an SPCC plan. Note that an SPCC plan is a federal requirement promulgated by 40 CFR Part 112.
2. The floor drains in Bldg. B029 should be plugged. The water in the USTs associated with B029 should be analyzed. Note that these tanks were formally closed in accordance with NYSDEC regulations and requirements and the closure was accepted by NYSDEC. This is the same recommendation as was made in ERM's original report.



ERM appreciates the opportunity to assist you with your on-going environmental needs at the UBC. Should you have any questions or comments, or require additional information, please do not hesitate to contact either of the undersigned.

Sincerely,


Richard A. Schulman
Project Manager


Douglas A. Wolf
Project Manager

Attachments

cc: Mr. Michael S. Ahern, Divney Tung Schwalbe

ATTACHMENT A
TABLES



**TABLE 1
INSPECTION/CONFIRMATION AREAS
FORMER IBM KINGSTON FACILITY**

Reference Number	Topic/Area to be Inspected	Comments
1	Building B043 former PCB storage area.	<p>The area was found to be in use as a packaging/materials handling area. No PCB labeled drums or other containers were observed. The area had a painted floor and was observed to be stain free and orderly.</p> <p>ERM reviewed Annual PCB Document Logs for the storage, handling and disposal of PCB articles and equipment for the years 1982 through 1993. IBM disposed of a significant quantity of PCB materials, primarily capacitors and printers. These materials were stored in Building B029 prior to disposal and disposed by licensed disposal companies. No outstanding issues regarding IBM's PCB management remain.</p>
2	Uncapped industrial wastewater drains.	<p>The drains in question were located in Building B004 Wet Lab. All drains were observed to be capped or plugged. Standing water was evident in the floor drains and trenches. The source(s) of this water were not readily apparent.</p>
3	Staining and corrosion in Building B004.	<p>The equipment and ductwork associated with the staining and corrosion has been removed.</p>
4	Building B005N freight elevators.	<p>The jack and piston for the Building B005N freight elevator No. 1 had recently been repaired, however the elevator was not operational at the time of ERM's site visit and the pit could not be inspected.</p> <p>The subsurface bore hole from which the Building B005N freight elevator No. 2 piston and related mechanical equipment protrudes was found to contain an unknown volume of oil. Samples of the oil were not taken by ERM, however representatives of Groundwater Sciences Corporation (GSC) were contacted by IBM and arrived at the site to collect samples. According to the GSC personnel, the oil layer within the borehole was greater than three feet thick.</p>

TABLE 1 (continued)
INSPECTION/CONFIRMATION AREAS
FORMER IBM KINGSTON FACILITY

Reference Number	Topic/Area to be Inspected	Comments
5	Lead-acid battery storage area in Building B034.	The lead acid batteries and battery racks have been removed.

**TABLE 2
RECORDS REVIEW ACTIVITIES
FORMER IBM KINGSTON FACILITY**

Reference Number	Review Area	Comments
6	Maintenance and inspection records for all facility hydraulic equipment, including reservoir refilling schedules, indications of leaks or loss of fluids, and re-use of fluid from decommissioned equipment or existing equipment.	No records associated with the hydraulic equipment were produced for review. However, several pieces of equipment did have physical markings indicating that oil may have been changed out.
7	Documentation concerning the closure, and removal of equipment of ten former truck levelers.	No documentation associated with ten former hydraulic truck levelers was produced for review. The areas where these levelers formerly existed, reportedly in the vicinity of Buildings B001 and B003, are now level concrete floors enclosed by walls and overhead doors. Original installations were located 15 to 18 below grade, uncovered and designed to collect precipitation, according to Dick Coller of Grubb and Ellis.
8	Current status of all remaining aboveground and underground petroleum and chemical bulk storage tanks as well as closure reports for any of these tanks that are reported by IBM to have been closed in accordance with NYSDEC requirements.	ERM identified 21 potential existing aboveground and underground tanks at the UBC. The status of the 21 identified potential existing tanks and three tanks which either were removed or were never actually present at the cited locations, is presented on Table 3.

TABLE 2 (continued)
RECORDS REVIEW ACTIVITIES
FORMER IBM KINGSTON FACILITY

Reference Number	Review Area	Comments
9	The "underground" spill collection tanks associated with Bldg. No. B029.	<p>The tanks were each re-examined and found to be in the same condition as originally identified. Water was evident in three of the tanks. The source of this water is unknown. It may be run-in from open drains within B029 or it may be condensate. In addition, these tanks may be incorrectly classified as "underground" tanks. ERM's inspection indicates that the tanks are contained within a vault that is partially filled with pea gravel and has a monitoring well. It is therefore likely that these tanks are actually "aboveground" rather than underground tanks as defined by 6NYCRR Part 612, 613 and 614. Note that these tanks were formally closed in accordance with NYSDEC regulations and requirements and the closure was accepted by NYSDEC.</p>
10	Information concerning the two areas of potential on-site disposal.	<p>No new information was generated by IBM to address the 1983 aerial photo indicating the presence of a potential disposal area southwest of the Salt Barn. The photograph was reviewed again and this area was confirmed to be an area of potential on-site disposal. Mr. Dick Coller of Grubb and Ellis indicated, during the Phase II site visit, that this area had been used by IBM for disposal of construction and demolition (C&D) debris.</p> <p>IBM supplied information concerning the potential disposal area located near the Industrial Waste Treatment Plant. This information indicates that this area was not used for on-site disposal of wastes and therefore does not appear to be a concern.</p>

**TABLE 3
STATUS OF SUSPECTED AND/OR EXISTING TANKS
FORMER IBM KINGSTON FACILITY**

ERM Tank ID Number ¹	GSC Tank ID Number ²	Location	Description and Use of Current Tank	Status
2, 46	AI	Adjacent to, and east of, B034.	550 gallon diesel AST for emergency generator.	Present, active?
21, 43, 44, 45	AA	Southwest of B029.	25 gallon diesel emergency generator day tank (AST).	Present, active?
32, 49	AH	B032.	500 gallon fuel oil AST	Present, active?
48	AS	South of B036.	550 gallon diesel AST	Present, inactive.
66, 67	AT	B047, east of B032.	500 gallon diesel AST for large AST tank heater.	Present, active?
5	Z	East of B029.	1,500 gallon chemical spill containment	Present, inactive.
16	U	East of B029.	500 gallon chemical spill containment	Present, inactive.
17	V	East of B029.	500 gallon chemical spill containment	Present, inactive.
18	W	East of B029.	500 gallon chemical spill containment	Present, inactive.
19	X	East of B029.	500 gallon chemical spill containment	Present, inactive.
20	Y	East of B029.	500 gallon chemical spill containment	Present, inactive.
53	D	Northwest of B003.	Possible UST location investigated by Conestoga-Rovers and Associates (CRA) in 7/96 investigation. No tank found.	Reported as not present
37, 54	E	40 feet east-southeast of B003.	Possible UST location investigated by CRA in 7/96 investigation. No tank found.	Reported as not present

TABLE 3 (continued)
STATUS OF SUSPECTED AND/OR EXISTING TANKS
FORMER IBM KINGSTON FACILITY

ERM Tank ID Number ¹	GSC Tank ID Number ²	Location	Description and Use of Current Tank	Status
59	AJ	Adjacent to, and east of, B034.	Possible UST location investigated by CRA in 7/96 investigation. Tank found and removed.	Closed, removed.
60	AK	460 gallon emerg. overflow tank beneath B035 expansion.	Not used. Unknown if pipes to/from tank have been capped. No closure documentation available.	Present, closed?
61	AP	500 gallon fuel oil UST beneath B036 expansion.	Not used. Unknown if pipes to/from tank have been capped. No closure documentation available.	Present, closed?
22	AC	East of B031.	500,000 gallon No. 2 fuel oil AST, reportedly closed in 1994. No closure documentation available.	Present, closed?
23	AB	East of B031.	500,000 gallon No. 6 fuel oil AST.	Present, active?
24	AD	East of B031.	150,000 gallon No. 6 fuel oil AST.	Present, active?
47	N/A	Inside B031	160 gallon corrosion inhibitor with alkalinity adjustment conditioner AST	Present, active?
68 ³	N/A	B036 Basement	300 gallon sulfuric acid AST	Present, active?
69 ³	N/A	B036 Basement	300 gallon sodium hydroxide AST	Present, active?
70 ³	N/A	Inside B031	270 gallon chemical softener AST	Present, active?
71 ³	N/A	Inside B031	270 gallon chemical softener AST	Present, active?

TABLE 3 (continued)
STATUS OF SUSPECTED AND/OR EXISTING TANKS
FORMER IBM KINGSTON FACILITY

Footnotes

- 1 - As referenced in ERM's Phase I Environmental Site Assessment Report, November 1996.
- 2 - As referenced in GSC's Draft Phase I Environmental Site Assessment Report, March 1995.
- 3 - These tanks were not observed during the limited Phase II site visit. Site personnel reported that these tanks had been replaced by tanks with capacities of less than 185 gallons and are therefore not regulated units.

TABLE 4
REMAINING HYDRAULIC EQUIPMENT
FORMER IBM KINGSTON FACILITY

Reference Number	Inspection Area	PCB Analytical Results	Comments ⁴
11	Bldg. No. B022 passenger elevator No. 022-1	Non-detect	Sample 1.
12	Bldg. No. B005 freight elevator No. 005N-2.	Non-detect	Sample 2. Elevator piston bore hole was inspected and found to contain oil. Pit is likely 20 to 30 feet deep, extending below the water table. Volume of oil present not established. Installation details/drawings not available.
13	Bldg. No. B005 passenger elevator No. 005N-2.	Non-detect	Sample 3.
14	Bldg. No. B005 passenger elevator No. 005N-1.	Non-detect	Sample 4.
15	Bldg. No. B052 passenger elevator No. 052-1.	Non-detect	Sample 5. Elevator piston bore hole packed with concrete. Staining evident on floor of shaft.
16	Bldg. No. B052 loading dock lift No. ES-1.	Non-detect	Sample 6
17	Bldg. No. B052 RR dock door No. ED01-077.	Non-detect	Sample 7
18	Bldg. No. B052 RR dock door No. ED01-076.	Non-detect	Sample 8
19	Bldg. No. B052 RR dock door No. ED01-075.	Non-detect	Sample 9
20	Bldg. No. B052 RR dock door No. ED01-074.	Non-detect	Sample 10

TABLE 4 (continued)
REMAINING HYDRAULIC EQUIPMENT
FORMER IBM KINGSTON FACILITY

Reference Number	Inspection Area	PCB Analytical Results	Comments ⁴
21	Bldg. No. B052 RR dock door No. ED01-073.	Non-detect	Sample 11
22	Bldg. No. B031 outdoor dock lift.	Non-detect	Sample 12
23	Bldg. No. B051 interior freight lift.	Non-detect	Sample 13
24	Bldg. No. B052; 11 loading docks.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). No staining was evident.
25	Bldg. No. B029 loading dock lift No. ED01-007.	Non-detect	Sample 14
26	Bldg. No. B034 outdoor loading dock.	Non-detect	Sample 15
27	Bldg. No. B025 1st floor freight elevator No. 001.	Non-detect	Sample 16. Oil staining was evident on pit floor. Concrete was poured around piston bore hole.
28	Bldg. No. B025 passenger elevator No. 001.	Non-detect	Sample 17.
29	Bldg. No. B025 passenger elevator No. 002.	Non-detect	Sample 18.
30	Bldg. No. B201 passenger elevator No. 201-1.	Non-detect	Sample 19.
31	Bldg. No. B202 1st floor freight elevator No. 1.	Non-detect	Sample 20. Piston bore hole sealed at floor of shaft.

TABLE 4 (continued)
REMAINING HYDRAULIC EQUIPMENT
FORMER IBM KINGSTON FACILITY

Reference Number	Inspection Area	PCB Analytical Results	Comments ⁴
32	Bldg. No. B202 1st floor passenger elevator No. 2.	Not sampled	Sample not taken. Identified as a new SWMU by IBM.
33	Bldg. No. B202 1st floor passenger elevator No. 3.	Non-detect	Sample 21. Piston bore hole sealed at floor of shaft.
34	Bldg. No. B203 loading dock lift Nos. ED01-100, 099 and 098.	Not sampled	Samples not taken due to safety. A total of 2 were present. One was found to be stain free, the other was leaking slightly. A third lift was previously removed and filled with concrete.
35	Bldg. No. B043; 3 loading dock levelers.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). IBM correspondence dated 7/18/97 identified the 3 dock levelers as being manual. Actual installations are hydraulic. Units were not leaking.
36	Bldg. No. B003; 2 truck levelers.	Not sampled	Samples not taken due to unsafe conditions (confined space). Equipment located below grade. Sumps were visible. Discharge paths unknown. Short dock leveler had evidence of leakage.
37	Bldg. No. B001; 6 loading docks.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). Two of the docks were not functional. The remaining 4 appeared fairly new and were not leaking.

TABLE 4 (continued)
REMAINING HYDRAULIC EQUIPMENT
FORMER IBM KINGSTON FACILITY

Reference Number	Inspection Area	PCB Analytical Results	Comments ⁴
38	Bldg. No. B005N loading dock Nos. ED01-046, 047, 048 and 049.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). No. 046 had a leaking hydraulic cylinder. Staining was evident. No. 047 was in good condition. Nos. 048 and 049 were inoperable.
39	Bldg. No. B042; 3 loading docks.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). Two of the lifts were in good condition. A third was inaccessible.
40	Bldg. No. B033; 2 loading docks.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). IBM correspondence dated 7/18/97 identified a total of 4 hydraulic units. Only 2 were observed and were not operational.
41	Bldg. No. B051 loading docks Nos. ED01-073 and 074.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). Both units appeared fairly new and had no evidence of leakage.
42	Bldg. No. B032 scissors lift.	Not sampled	Sample not taken due to unsafe condition (equipment lockout). Unit had no evidence of leakage.
43	Bldg. No. B029 loading dock No. ED01-057.	Not sampled	Sample not taken due to unsafe conditions (equipment lockout). IBM correspondence dated 7/18/97 identified a total of 2 hydraulic units. Only one was observed and was not observed to be leaking.
44	Bldg. No. B035 loading dock Nos. ED01-110 and 111.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). No evidence of leakage observed.

TABLE 4 (continued)
REMAINING HYDRAULIC EQUIPMENT
FORMER IBM KINGSTON FACILITY

Reference Number	Inspection Area	PCB Analytical Results	Comments ⁴
45	Bldg. No. B025 loading dock Nos. ED01-056, 055 and 054.	Not sampled	Samples not taken due to unsafe conditions (equipment lockout). No evidence of leakage observed.

Footnotes

4 - If there are no comments listed in this column for a specific piece of equipment, then no issues of potential environmental concern (leaks, stains, etc.) associated with that equipment were noted during the site inspection.

ATTACHMENT B
ANALYTICAL RESULTS





SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

Laboratory Analysis Report
Prepared for: ERM-ENVIROCLEAN-NORTHEAST
Project Number: 9917827
Task Number: 971009C
16 OCT 1997

IMPORTANT - PLEASE NOTE

1. All results are calculated on a dry weight basis unless otherwise specified.
2. PQL = Practical Quantitation Limit.
3. A result with a "D" means that the result was "Detected" below the Practical Quantitation Limit (PQL), but above the Method Detection Limit (MDL).
4. ND = Not Detected at or above the PQL.
5. NTP = Non-target peaks (1-5 peaks).
MNTP = Many non-target peaks (5+ peaks).
6. pH results not performed in the field should be considered estimated since the holding time is 15 minutes from the sampling time.
7. If the samples are collected independently of our laboratory, Scilab is not responsible for the possible contamination during the sampling procedure.
8. Methylene chloride and acetone are common laboratory artifacts for volatile organic analysis. Bis-(2-ethyl-hexyl) phthalate and di-n-butylphthalate are common laboratory artifacts for GC/MS semivolatile analysis. Other compounds may also appear as laboratory artifacts for the organic analyses. The above compounds will be flagged as suspected laboratory artifacts if the detected value is less than five (5) times of the PQL in the sample. Acetone will be flagged as a suspected laboratory artifact only up to two and a half (2.5) times of the PQL.
9. If air samples are collected independently of our laboratory, Scilab is not responsible for inadequate sample volume for air analysis.

AUTHORIZED FOR RELEASE: 

DATE: 10/17/97

CERTIFICATIONS:

NYS E.L.A.P. ID NO: 10358

MA: NY052

CT: PH-0551

NJ: 73581

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 10:00 AM
Sampled By : WOLF
Sample Id: B022-1 ELEV.RES
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

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15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 01
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

Results	PQL	Unit	Analyst Reference
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 02
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL



FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/07/97 Time: 10:15 AM
 Sampled By: WOLF
 Sample Id: B005N FREIGHT ELEV
 Location: UBC KINGSTON, NY

Parameters and Standard Methodology Used

Parameters and Standard Methodology Used		Results	PQL	Unit	Analyst Reference
EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 10:25 AM
Sampled By : WOLF
Sample Id: B005N ELEV.2 RES.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

Results	PQL	Unit	Analyst Reference
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

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PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 03
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 04
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL



FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/07/97 Time: 10:30 AM
 Sampled By: WOLF
 Sample Id: B005N ELEV.1 RES.
 Location: UBC KINGSTON, NY

Parameters and Standard Methodology Used

Parameters and Standard Methodology Used		Results	PQL	Unit	Analyst Reference
EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 11:50 AM
Sampled By : WOLF
Sample Id: B052 ELEV. RES.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080
PCB1016	SW-846 METHOD 8080
PCB1221	SW-846 METHOD 8080
PCB1232	SW-846 METHOD 8080
PCB1242	SW-846 METHOD 8080
PCB1248	SW-846 METHOD 8080
PCB1254	SW-846 METHOD 8080
PCB1260	SW-846 METHOD 8080

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Tel: (518) 786-8100
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PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 05
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/07/97 Time: 13:55 PM
 Sampled By : WOLF
 Sample Id: B052 ES-1 LOADING
 Location : UBC KINGSTON, NY

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 06
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL

Parameters and Standard Methodology Used

		<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 14:20 PM
Sampled By : WOLF
Sample Id: B052 EDO1-077 RR D
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080
PCB1016	SW-846 METHOD 8080
PCB1221	SW-846 METHOD 8080
PCB1232	SW-846 METHOD 8080
PCB1242	SW-846 METHOD 8080
PCB1248	SW-846 METHOD 8080
PCB1254	SW-846 METHOD 8080
PCB1260	SW-846 METHOD 8080

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

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PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 07
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

PROJECT #: 9917827

Attention: MR. DOUG WOLF

Task #: 971009C

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 14:35 PM
Sampled By : WOLF
Sample Id: B052 ED01-076 RR D
Location : UBC KINGSTON, NY

Sample No: 971009C 08
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

Parameters and Standard Methodology Used

		Results	PQL	Unit	Analyst Reference
EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 09

Date Received: 10/08/97

Collection Method: GRAB

Matrix: OIL

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 14:45 PM
Sampled By : WOLF
Sample Id: B052 ED01-075 RR D
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080
PCB1016	SW-846 METHOD 8080
PCB1221	SW-846 METHOD 8080
PCB1232	SW-846 METHOD 8080
PCB1242	SW-846 METHOD 8080
PCB1248	SW-846 METHOD 8080
PCB1254	SW-846 METHOD 8080
PCB1260	SW-846 METHOD 8080

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/07/97 Time: 14:55 PM
 Sampled By : WOLF
 Sample Id: B052 ED01-074 RR D
 Location : UBC KINGSTON, NY

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 10
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL

Parameters and Standard Methodology Used

EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080
PCB1016	SW-846 METHOD 8080
PCB1221	SW-846 METHOD 8080
PCB1232	SW-846 METHOD 8080
PCB1242	SW-846 METHOD 8080
PCB1248	SW-846 METHOD 8080
PCB1254	SW-846 METHOD 8080
PCB1260	SW-846 METHOD 8080

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPH

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ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/07/97 Time: 15:10 PM
Sampled By : WOLF
Sample Id: 8052 ED01-073 RR D
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

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SCILAB ALBANY, INC.
15 Century Hill Drive
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Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 11
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97
ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, NG/L=PPM, MCG/L=PPB, MCG/G=PPM

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 Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 12
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL



FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/08/97 Time: 10:20 AM
 Sampled By : WOLF
 Sample Id: B031 EXTERIOR LIFT
 Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

		<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:031 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 10:45 AM
Sampled By : WOLF
Sample Id: B051 FREIGHT ELEV.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 13
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 14
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL



FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 11:00 AM
Sampled By : WOLF
Sample Id: 8029 ED01-007 LIFT
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

Parameters and Standard Methodology Used		Results	PQL	Unit	Analyst Reference
EXTRACTION FOR PCBS IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 11:20 AM
Sampled By : WOLF
Sample Id: 8034 EXTERIOR LIFT
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080
PCB1016	SW-846 METHOD 8080
PCB1221	SW-846 METHOD 8080
PCB1232	SW-846 METHOD 8080
PCB1242	SW-846 METHOD 8080
PCB1248	SW-846 METHOD 8080
PCB1254	SW-846 METHOD 8080
PCB1260	SW-846 METHOD 8080

Results PQL Unit Analyst Reference

COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 15
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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 Latham, NY 12110
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 Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 16

Date Received: 10/08/97

Collection Method: GRAB

Matrix: OIL

SCILAB

FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/08/97 Time: 11:40 AM
 Sampled By : WOLF
 Sample Id: B025 FREIGHT ELEV.
 Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

		<u>Results</u>	<u>PQL</u>	<u>Unit</u>	<u>Analyst Reference</u>
EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 11:50 AM
Sampled By : WOLF
Sample Id: B025 ELEV.1 RES.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

PAGE 17
SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 17
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

Results	PQL	Unit	Analyst Reference
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:



FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 11:55 AM
Sampled By : WOLF
Sample Id: B025 ELEV.2 RES.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

Results	PQL	Unit	Analyst Reference
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 18
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 14:15 PM
Sampled By : WOLF
Sample Id: B201 FREIGHT ELEV.
Location : UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBS IN OIL SW-846 METHOD 8080
PCB1016 SW-846 METHOD 8080
PCB1221 SW-846 METHOD 8080
PCB1232 SW-846 METHOD 8080
PCB1242 SW-846 METHOD 8080
PCB1248 SW-846 METHOD 8080
PCB1254 SW-846 METHOD 8080
PCB1260 SW-846 METHOD 8080

Results PQL Unit Analyst Reference

COMPLETED
ND 2.5 MCG/G ACK 10/10/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97
ND 2.5 MCG/G GC8F:032 10/11/97

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 19
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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 P.O. Box 787
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 Tel: (518) 786-8100
 Fax: (518) 786-7700

PROJECT #: 9917827

Task #: 971009C

Sample No: 971009C 20
 Date Received: 10/08/97
 Collection Method: GRAB
 Matrix: OIL

SCILAB

FULL SERVICE ENVIRONMENTAL LABORATORIES

ERM-ENVIROCLEAN-NORTHEAST
 421 NEW KARNER ROAD
 ALBANY NY 12205

Attention: MR. DOUG WOLF

Purchase Order Number: 1259-006
 Date Sampled: 10/08/97 Time: 14:35 PM
 Sampled By: WOLF
 Sample Id: B202-1 FREIGHT ELV
 Location: UBC KINGSTON, NY

Parameters and Standard Methodology Used

EXTRACTION FOR PCBs IN OIL SW-846 METHOD 8080
 PCB1016 SW-846 METHOD 8080
 PCB1221 SW-846 METHOD 8080
 PCB1232 SW-846 METHOD 8080
 PCB1242 SW-846 METHOD 8080
 PCB1248 SW-846 METHOD 8080
 PCB1254 SW-846 METHOD 8080
 PCB1260 SW-846 METHOD 8080

Results	PQL	Unit	Analyst Reference
COMPLETED			ACK 10/10/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97
ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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FULL SERVICE ENVIRONMENTAL LABORATORIES

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
Tel: (518) 786-8100
Fax: (518) 786-7700

ERM-ENVIROCLEAN-NORTHEAST
421 NEW KARNER ROAD
ALBANY NY 12205

PROJECT #: 9917827

Attention: MR. DOUG WOLF

Task #: 971009C

Purchase Order Number: 1259-006
Date Sampled: 10/08/97 Time: 14:45 PM
Sampled By : WOLF
Sample Id: B202-3 ELEV.3 RES.
Location : UBC KINGSTON, NY

Sample No: 971009C 21
Date Received: 10/08/97
Collection Method: GRAB
Matrix: OIL

Parameters and Standard Methodology Used

Parameters and Standard Methodology Used		Results	PQL	Unit	Analyst Reference
EXTRACTION FOR PCBs IN OIL	SW-846 METHOD 8080	COMPLETED			ACK 10/10/97
PCB1016	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1221	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1232	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1242	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1248	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1254	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97
PCB1260	SW-846 METHOD 8080	ND	2.5	MCG/G	GC8F:032 10/11/97

REMARKS:

END OF REPORT

LEGEND: MG/KG=PPM, MCG/KG=PPB, MG/L=PPM, MCG/L=PPB, MCG/G=PPM

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CHAIN OF CODY RECORD
LABORATORY SERVICES

TASK # 971070

SCILAM
15 Century ... Drive
P.O. Box 787
Latham, NY 12110
518-786-7100
FAX 518-786-7139

Client ALAN GINSBERG (FRH) Sampler's Name DORIS A. WOLF
 Client Contact DORIS WOLF (please print)
 Project Location U.S. KINGSBORO, NY Contact _____
 Purchase Order 1759-006 Turnaround Time Requested Standard

LAB ID	Sample ID/Description	Date Sampled	Time A = a.m. P = p.m.	Matrix	Sample Type				Preservative (list by # from list below)	Analysis Required
					C	O	R	A		
01	B022-1 (Elmhor Reservoir)	10/17/97	1000	Oil	X				9	Total PCBs
02	B05N (Fairport Res.)	10/17/97	0115		X					
03	B05N (Elmhor Reservoir)	10/17/97	0225		X					
04	B05N (Elmhor Reservoir)	10/17/97	0330		X					
05	B052 (Elmhor Reservoir)	10/17/97	1050		X					
06	B052 (ES-1 LAMING PARK OFF)	10/17/97	1355		X					
07	B052 (ED01-077 RR DOCK)	10/17/97	1420		X					
08	B052 (ED01-076 RR DOCK)	10/17/97	1435		X					
09	B052 (ED01-075 RR DOCK)	10/17/97	1445		X					
10	B052 (ED01-074 RR DOCK)	10/17/97	1455		X					

Sampled by: (signature)	Date/Time	Received by: (signature)	Date/Time	Preservatives	Sample Condition
<i>[Signature]</i>	10/17/97	<i>[Signature]</i>	10/17/97	1. HCl 2. HNO ₃ 3. NaOH 4. Na ₂ S ₂ O ₃ 5. Zn Acet 6. Ascorbic 7. H ₂ SO ₄ 8. F (Filtered) 9. N (not preserved) 10. Other	1. Samples intact? Y N 2. Custody seals intact? Y N 3. Preserved properly? Y N 4. Ambient or chilled? 5. C.O.C. received with samples? Y N
Relinquished by: (signature)		Received by: (signature)			
Relinquished by: (signature)		Received by: (signature)			
Dispatched by: (signature)		Received for Laboratory by: <i>[Signature]</i>	10/17/97		

Method of Shipment: HAND DELIVERY Date: 10/17/97

NOTES/COMMENTS:

CHAIN OF CUSTODY RECORD
LABORATORY SERVICES

SCILAB
15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
518-786-7100
FAX 518-786-7139

TASK # 971099C

Client ALAN KUNISBERG (ERM) Sampler's Name FRANKAS A. WOLF
 Client Contact FRANK WOLF (please print)
 Project Location W3C Kingsbury, NY
 Purchase Order 12571006 Turnaround Time Requested Standard

LAB ID	Sample ID/Description	Date Sampled	Time A = a.m. P = p.m.	Sample Type				Preservative (list by # from list below)	Analysis Required
				Matrix	C O M P	G R A B	# of Con- tainers		
1	B02 (EPA-023 RR DOCK)	10/15/97	1510	0:1	X			9	Total PCBs
2	B031 (Exhibit 1 Lift)	10/15/97	1045		X				
3	B0511 (Frigid Exhibit Reservoir)	10/15/97	1045		X				
4	B022 (EPA-027 Lift)	10/15/97	1100		X				
5	B034 (Exhibit 1 Lift)	10/15/97	1120		X				
6	B025 (Frigid Exhibit Reservoir)	10/15/97	1140		X				
7	B025 (Exhibit 1 Reservoir)	10/15/97	1150		X				
8	B025 (Exhibit 2 Reservoir)	10/15/97	1155		X				
9	B201 (Frigid Exhibit Reservoir)	10/15/97	1415		X				
10	B002-1 (Frigid Exhibit Reservoir)	10/15/97	1435		X				

Sampled by: (signature)	Date/Time	Received by: (signature)	Date/Time	Preservatives	Sample Condition
<i>[Signature]</i>	10/15/97	<i>[Signature]</i>	10/15/97	1. HCl 2. HNO ₃ 3. NaOH 4. Na ₂ O ₃ 5. Zn Acet	1. Samples intact? Y N 2. Custody seals intact? Y N 3. Preserved properly? Y N 4. Ambient or chilled? Y N 5. C.O.C. received with samples? Y N
Relinquished by: (signature)		Received by: (signature)		6. Ascorbic 7. H ₂ SO ₄ 8. F (Filtered) 9. N (not preserved) 10. Other	
Relinquished by: (signature)		Received by: (signature)			
Dispatched by: (signature)		Received by: (signature)			

Method of Shipment: Hand Delivery Date: 10/15/97

NOTES/COMMENTS:

TASK # 77ka2c

CHAIN OF CDDY RECORD
LABORATORY SERVICES

SCILAB
15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
518-786-7100
FAX 518-786-7139

Client ALAN CONSBY (ERM) Sampler's Name DORRIS A WOLF
 Client Contact DORRIS WOLF (please print)
 Project Location 382 Kingston NY
 Purchase Order 129,000

Contact Shelton
 Turnaround Time Requested

LAB ID	Sample ID/Description	Date Sampled	Time A = a.m. P = p.m.	Sample Type				Preservative (list by # from list below)	Analysis Required
				C	O	M	P		
21	B202-3 (Elevated 3 Reservoir)	10/8/97	1445				X	9	total PCBs

Sampled by: (signature)	Date/Time	Received by: (signature)	Date/Time	Preservatives	Sample Condition
<i>[Signature]</i>	10/8/97	<i>[Signature]</i>		1. HCl 2. HNO ₃ 3. NaOH 4. NaS ₂ O ₃ 5. Zn Acet 6. Ascorbic 7. H ₂ SO ₄ 8. F (Filtered) 9. N (not preserved) 10. Other	1. Samples intact? Y N 2. Custody seals intact? Y N 3. Preserved properly? Y N 4. Ambient or chilled? 5. C.O.C. received with samples? Y N
Relinquished by: (signature)		Received by: (signature)			
Relinquished by: (signature)		Received by: (signature)			
Dispatched by: (signature)		Received for Laboratory by: (signature)			

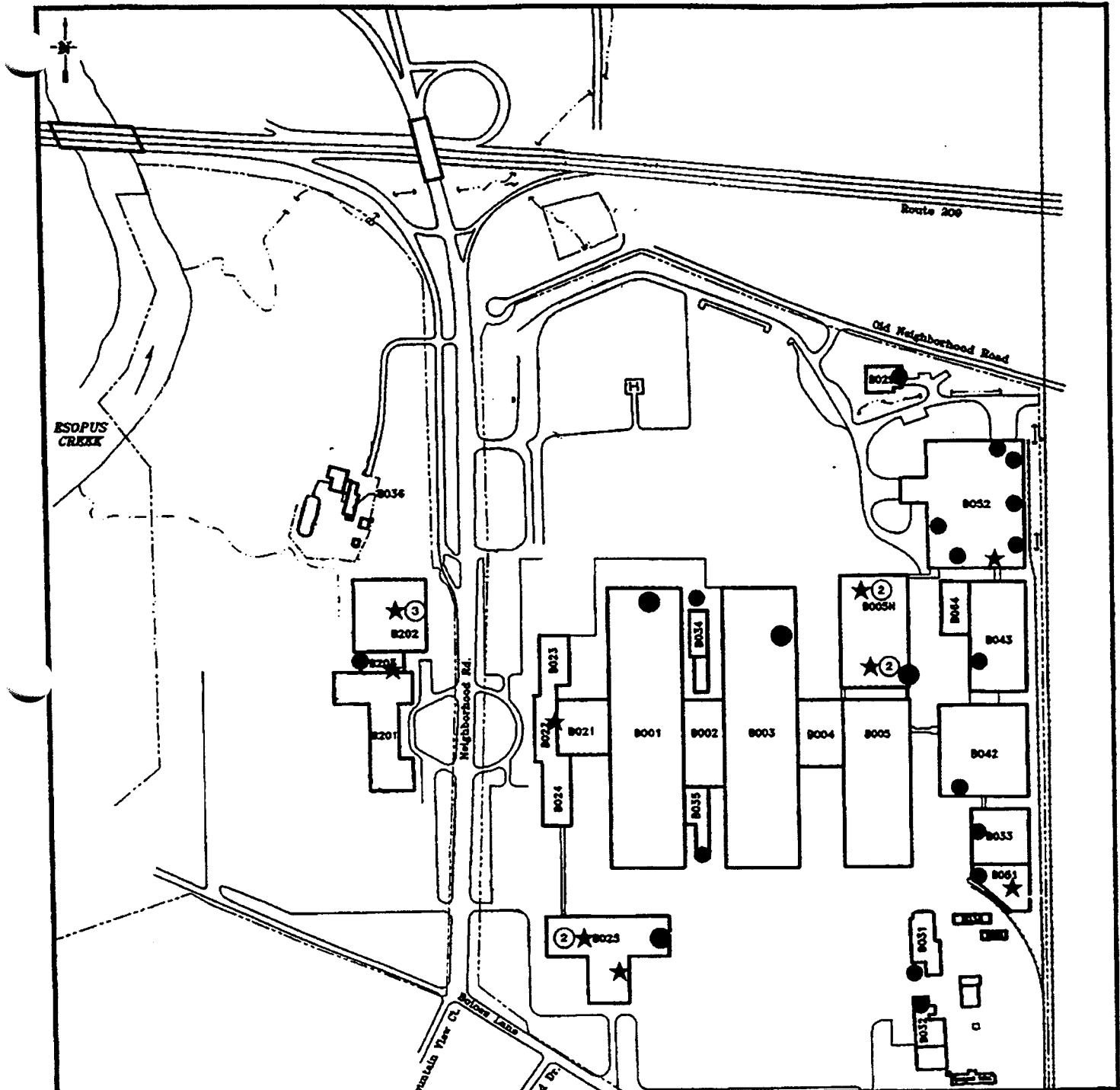
Method of Shipment: Hand Delivery
 Date: 10/8/97

NOTES/COMMENTS:



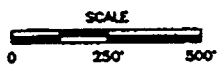
ATTACHMENT C
FIGURES





- ★ ② Hydraulic Elevator Locations (approximate)
(Number in circle = number of elevators)
- Hydraulic Equipment Locations (approximate)
(May be multiple pieces of equipment at each identified location)

SOURCE: 1995-1996 Annual Groundwater Monitoring Report,
GSC, September 19, 1996.



<p>HYDRAULIC EQUIPMENT LOCATION MAP ULSTER BUSINESS COMPLEX KINGSTON, NEW YORK</p>							
<p>PREPARED FOR ALAN GINSBERG</p>							
ERM-Northeast	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">SCALE</td> <td style="font-size: small;">FIGURE</td> </tr> <tr> <td style="font-size: small;">DATE</td> <td style="text-align: center; font-size: 2em;">1</td> </tr> <tr> <td style="text-align: center;">10/97</td> <td></td> </tr> </table>	SCALE	FIGURE	DATE	1	10/97	
SCALE	FIGURE						
DATE	1						
10/97							



E17.25

Besicorp/Empire Development, LLC
1151 Flatbush Road
Kingston, NY 12401

Empire State Newsprint Project Ulster Township, NY

Preliminary Summary of the TechCity Site for Environmental Considerations

Draft: October 29, 1999

Prepared By:
ENSR Consulting
Langhorne, Pennsylvania

October 1999
Project No. 2523-001



1.0 Introduction

The purpose of this report is to identify potential fatal flaws for siting the Empire State Newsprint Project (ESNP) at the TechCity complex in Ulster Township. ENSR looked at existing site features and potential areas of concern (AOC), and has consequently identified potential concerns associated with siting the facility on a portion of the TechCity Complex.

The proposed site is located in Ulster Township. Specifically, it is the southwestern portion of the TechCity complex, a former IBM manufacturing facility. This complex is divided into east and west parcels by Enterprise Drive. The majority of IBM manufacturing activities occurred on the eastern parcel of the complex. The proposed location for the Empire State Newsprint Project is on the western parcel, excluding the northern section.

The proposed site's eastern border (west of the Fleet Bank buildings) is parallel to Enterprise Drive. The site boundary to the north is beneath a wetland associated with a former wastewater treatment plant. The site is bound to the south by Boices Lane, along which are residential houses and a few commercial properties. The site's border to the west is marked by Esopus Creek. This parcel is approximately 95 acres; the Saugerties site was approximately 185 acres, with a plant footprint of about 65 acres. The proposed site and important site features are displayed on Figure 1, Site Map (Groundwater Sciences Corporation [GSC] 1995). Note that the Patel property, which bisects the western parcel, has been included in the potential site area although no environmental analyses have been performed on this property.

Prior to 1954, the subject site appeared to be largely undeveloped with the exception of a 2,000 foot airport runway along the west side of Enterprise Drive. Historically (1950s through 1980), the area was used as cultivated crop land, according to a GSC (1995) review of aerial photographs. Currently, the majority of the site remains undeveloped, with the exception of a Salt Barn (B070) built in the late 1980s, a farmhouse, other dwellings on the Patel property, and a large paved area (to the west of the Fleet Bank buildings).

Three office buildings located along Enterprise Drive (the eastern boundary of the subject site) are characterized as offices (GSC 1995). Fleet Bank is the current tenant. There is a large parking lot associated with these buildings.

The subject site is generally flat; it slopes gently to the west towards the Esopus Creek.

2.0 Document Review

TechCity's owner has provided numerous environmental documents for review, containing information regarding the entire property. The majority of information is related to environmental issues of concern within the eastern parcel.

The following table presents a list of the documents provided to ENSR for review in this assessment.

Date	Description
1/99	ERM, Spill Prevention Control and Countermeasure Plan
4/15/98	SPDES Permit NY 0108138, compliance, Action Report Analysis & Recommendations of Monitoring Frequencies
3/3/98	Memo with attachments Re: Title V Capping Plan, RACT Plans and facility's current air permits
Rev. 11/27/97	IBM Kingston SPDES Permit No. NY 0108138 Compliance Action Report, Stormwater Systems Modifications
4/12/96	RCRA Facilities Investigations, Soil Gas Surveys & Sewer Systems Sampling (through Appendix E)
9/27/95	1994-95 Annual Groundwater Monitoring Report - Vol. I
9/27/95	1994-95 Annual Groundwater Monitoring Report - Vol. II
9/27/95	1994-95 Annual Groundwater Monitoring Report - Vol. III (excludes Appendices E & I)
6/5/95	Phase I Environmental Site Assessment (Excludes Appendix B), by Groundwater Sciences Corporation
11/96	Phase I Environmental Site Assessment (Excludes Appendices B, D, E, G, J, K) by ERM-Northeast Inc.
11/97	Limited Phase II Environmental Site Assessment, by ERM
1/16/95	Groundwater Sciences Corp. - RCRA Facility Assessment - 4 Recently Identified Solid Waste Management Units (Excludes Appendix F)
3/1/94	IBM Sewer Assessment Report
1994	IBM, Industrial Wastewater Treatment Plant Closure Report
7/2/93	Post Closure Permit Applications, Former Industrial Sludge Lagoon (Vols. I & II) (Excludes Appendices E, F, G, I, J, K, L, M)
1984-1998	Groundwater Monitoring Reports & Correspondence
Various	UST Investigations/Closures
2/87	Environmental Risk Limited, Risk Assessment Study of Storage Tanks at IBM Kingston (Vol. I)
	Corrective Action for Solid Waste Management Units (Vols. I & II)
Various	TechCity Environmental Permits
10/96	ERM, Indoor Air Quality Investigation
11/96	ERM, Limited Asbestos and Lead Paint Survey
1973	New York State Wellands Map, Ulster County Map 19 of 37, Kingston West Quadrangle
1973	New York State Wellands Map, Dutchess County Map 5 of 22, Kingston East Quadrangle
1999	Draft Wetland Assessment Notes, ENSR

The review of existing information also identified four boilers (and several emergency diesel generators) at the former IBM site which have valid air permits. This equipment is presented in the Air Permit Summary Table. The IBM facility applied for a modification of air certificates to operate four boiler stacks and

IBM MHV Facility Air Permit Summary

Permitted Source	Permit Expiration Date	Source Type	Source Capacity	Stack Height (ft)	Control Device? (Y/N?)	Operational Limits	Annual Emission Limits (lb/yr)				
							PM	SO2	NOx	CO	THC
00001	11/2/00	2 Boilers, Single Stack	41.7 MMBtu/hr	45	No	276.8 MMcf/yr	1384	166	38752	9688	1606
00002	11/2/00	Boiler	40.0 MMBtu/hr	40	No	924 Mgalyr 333.7 MMcf/yr	5544	43520	69300	11680	1935
00003	11/2/00	Boiler	40.0 MMBtu/hr	40	No	440 Mgalyr	2640	20724	33000	2200	563
00004	11/2/00	Boiler	40.0 MMBtu/hr	40	No	440 Mgalyr	2640	20724	33000	2200	563
GK029	8/29/00	Emergency Generator	0.2 MMBtu/hr	25	No	263 galyr	8	7	111	24	9
GK032	8/29/00	Emergency Generator	1.9 MMBtu/hr	14	No	2726 galyr	91	85	1279	278	102
GK034	8/29/00	Emergency Generator	1.0 MMBtu/hr	10	No	1363 galyr	46	43	639	139	51
GK036	8/29/00	Emergency Generator	1.1 MMBtu/hr	10	No	1509 galyr	51	47	708	154	57
GK047	8/29/00	Emergency Generator	0.5 MMBtu/hr	8	No	618 galyr	21	19	290	63	23
GK963	8/29/00	Emergency Generator	1.9 MMBtu/hr	11	No	2726 galyr	91	85	1279	278	102
Annual Potential to Emit (tpy)							6.3	42.7	89.2	13.4	2.5
Major Source Threshold (tpy)							100	100	100	100	50

six emergency generators in February 1995. There are two 20.8 MMBtu/hr boilers and three 40 MMBtu/hr boilers. The two 20.8 MMBtu/hr boilers burn natural gas; one 40 MMBtu/hr boiler burns natural gas and fuel oil; and two 40 MMBtu/hr boilers burn fuel oil. The boiler permits expire in November 2000. The packet included permits for six emergency generators that varied in size from 0.2 to 1.9 MMBtu/hr. These permits all expire in August 2000.

Report Limitations

To date, no information has been presented to ENSR regarding the placement of a rail spur or gas, water, and electric Rights-of-Way into the site. It is known that a rail line is present east of the site, but ENSR is not aware of how a spur will be extended across the east parcel and what environmental impacts may occur.

3.0 Site Features

The subject site has notable features including wetlands, a surface water stream, land within the 100-year floodplain, easement and Right-of-Way (ROW), potentially historic buildings, a former underground storage tank, RCRA Solid Waste Management Units (SWMU), and a potential Area of Concern (AOC).

Wetlands and Surface Water

ENSR reviewed the New York State Wetlands Maps that pertain to the subject site (NYDEC, 1973). These maps indicate wetlands that are protected under Article 24 of the State Environmental Conservation Law under the jurisdiction of the New York State Department of Conservation. There are no wetlands identified on these maps for the subject site. Wetlands subsequently located on the subject site would be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) Section 404 Program.

A preliminary wetland assessment was performed by ENSR scientists on October 9, and 10, 1999. Access was not available to the Patel portion of the subject property and no wetland assessment was conducted in this area. ENSR determined during this assessment that there are approximately 4.73 acres of wetlands on the subject property available for inspection. These wetlands consist of approximately 1.65 acres classified as palustrine emergent (PEM) wetlands and approximately 3.08 acres of palustrine forested/scrub-shrub/emergent (PFO/PSS/PEM) wetlands. The PEM wetlands are associated with swales and drainage channels. The PFO/PSS/PEM wetland is associated with a drainage channel that flows in a southwesterly direction near the southeastern property boundary and with an isolated wetland located near the center of the subject property.

There is a dry non-vegetated channel located along the southern Patel property boundary that is associated with Esopus Creek. There was no hydrophytic vegetation associated with this channel and no evidence of flow during the field investigation by ENSR scientists. Wetland areas are displayed on the Site Map.

100-Year Flood Zone

GSC (1995) utilized National Flood Insurance maps from the Federal Emergency Management Agency, and identified the 100-Year Flood Line on the site plan. Approximately 28 acres (30%) of the 95-acre parcel may be within the 100-year flood zone. The actual aerial extent of the Esopus Creek floodplain relative to the site needs to be specified.

Easement and ROW

A 30'-wide sanitary sewer easement belonging to Ulster Township is located within the floodplain near the western perimeter of the property. A 100'-wide ROW belonging to the Central Hudson Gas and Electric (CHE&G) is located at the southeastern perimeter of the property. It is unlikely that any permanent structures will be allowed to be constructed in these areas.

Historically Significant Structures

West of the parking lot (on the Patel property) are a few related structures, which were never incorporated into the IBM site. Among these structures are a 100+ year old stone house and a barn of similar architecture. These structures are identified on the Site Map.

Former Underground Storage Tank (UST)

To the east of B202 (buildings currently occupied by Fleet Bank) was a 5,000-gallon diesel UST installed in 1971. According to Environmental Risk Limited (1987), the tank passed a tightness test, however, due to its age, ERL recommended that the tank be replaced, and further recommended inventory monitoring. GSC (1995) confirmed that this tank was closed in October 1988 by removal. "No assessment was performed at the time of closure, reportedly because the 1986 tank testing results indicated that the tank was sound," (GSC 1995). Although the former tank was located off the proposed site, its upgradient proximity to the site was the rationale for displaying this feature on the Site Map.

SWMU and AOC

A Solid Waste Management Unit (SWMU) is an area in which solid or hazardous wastes may have been placed over time, and the potential exists for soil and groundwater contamination. SWMU is a term used by USEPA under the RCRA Corrective Action Program; a program of which the IBM property is subject to. SWMUs are investigated in a phased manner and are either eliminated due to minimal concern or are further evaluated for corrective measures. The site contains one confirmed SWMU. The SWMU is identified as the Salt Barn Parking Lot Fill Area (approximately 350 by 450 feet), located north of the Salt Barn. According to GSC (1995), "this area received primarily parking lot sweepings consisting almost entirely of sand at the surface. Small amounts of construction debris and yard waste also have been noted in the filled area of this unit. Recent topographic mapping indicated that the fill is generally two to six feet thick. A work plan for the assessment of this SWMU was included in the

RCRA Facility Investigation, Scope of Work (RFI SOW) by Dames & Moore, 1993. In the fall of 1994, test pits were dug and monitoring wells were installed to assess this unit." Low levels of contaminants were found in this SWMU during the investigations conducted in 1994.

In a 1996 Phase I Environmental Assessment conducted by Environmental Resources Management (ERM), an area of potential disposal was identified to the southwest of the Salt Barn in a 1983 aerial photograph. ERM stated that "this area of potential disposal may be related to the construction of B025." This area has been identified as a potential AOC.

The area adjacent to and immediately north of the proposed site contains six SWMUs, including: Building 036 container storage area, wastewater treatment tanks (6), emergency wastewater holding tanks (2), former industrial waste sludge lagoon (IWSL), inactive building construction and debris landfill, and a former fire training area.

The IWSL closure was certified by a licensed professional engineer on June 12, 1985. A post-closure permit application for the former IWSL was submitted to the NYSCED on July 2, 1993. The post-closure activities approved by the NYSDEC will have to be continued for the remainder of the post-closure period. The former IWSL area can be paved and used as a parking lot or other similar uses after obtaining a variance from the deed restriction and an approval from NYSDEC.

4.0 Potential Issues of Concern

Wetlands and Surface Water (Area B on the Site Map)

Disturbance of the aforementioned wetlands will require permitting under the jurisdiction of the ACOE. The type of permitting process required is dependent upon the amount of disturbance to wetlands and water bodies under the ACOE jurisdiction. Currently Nationwide Permit 26 would allow for disturbance of a maximum of 3 acres of wetlands. Wetland disturbance over 3 acres would require an Individual Permit from the ACOE.

100-Year Flood Zone

Approximately 28 acres along the southwest portion of the site are within the 100-year flood zone of Esopus Creek. Permits to build in this zone are obtained by variance to the local zoning ordinance. ACOE approval may be needed as well if the intrusion extends beyond the mean high water linear floodway.

Solid Waste Management Units (SWMU)

SWMU: Salt Barn/Parking Lot Sand Disposal Area (Area A on the Site Map)

The area to the northwest of the Salt Barn contains an SWMU that includes areas of fill and spent sand used during winter on road surfaces from facility parking lots (known as the Parking Lot Sand Disposal [PLSD] Area). According to GSC (1995), in the spring of 1993 an informal inspection of the area indicated oil stains (approximately 150 square feet) beneath snow removal equipment. There was also one small area with an odor described as "gasoline" and one that had an odor described as "parts cleaner." These areas were identified in the southeast portion of the PLSD Area. After the spill was reported to the NYSDEC, a spill response contractor hired by IBM removed 80 cubic yards of surficial soil. In addition, the contractor removed 20 cubic yards of soil from the two locations with odors. Soil was removed until there was no response from a photoionization detector (PID), and the excavated soil was disposed of off-site.

As reported in the *RCRA Facility Assessment, Four Recently Identified SWMUs* (GSC; January 16, 1995), soil samples were collected from seven of 16 test pits in the fill area. The seven samples were analyzed for Appendix 33 VOCs. Low levels (<1 ppm) of acetone, methyl ethyl ketone (MEK), toluene and ethylbenzene were detected in samples from two of the test pits.

Six shallow monitoring wells (MW-240S through 245S) were installed in 1994 and three rounds of groundwater sampling indicated low levels (<4 ppb) of the VOCs, TCE and TCA, the SVOC, bis (2-ethylhexyl) phthalate and pyridine; the pesticide, endosulfan II; and several metals.

SWMU: Groundwater

Site-Wide Groundwater: TechCity

Groundwater sampling has been conducted on a regular basis at the TechCity site since 1978 in response to previous discharges of chlorinated solvents. Current quarterly sampling events are reported in *Annual Groundwater Monitoring Reports* prepared by GSC on behalf of IBM. The most recent report reviewed is the *1997 Annual Groundwater Monitoring Report* (March 30, 1998). Quarterly sampling over the last several years has been conducted on a selected group of wells in order to demonstrate the effectiveness of interceptor and recovery trenches in restricting plume migration from the eastern portion of the site. The currently mapped plume includes a small area of impact (less than 1 acre) on the site's western portion (see Area F on the Site Map). The most recently reviewed groundwater sampling results indicated the presence of the following chlorinated VOCs within this small portion of the western parcel: TCE, 1,2-DCE, 1,1,1-TCA, 1,1-DCE, 1,1-DCA, 1,1,2-TCA and 1,2-DCA. As part of their regular groundwater monitoring program, three monitoring wells (MW173S,

174S and 189S) within this area of the southwestern parcel are regularly monitored. Based on the preliminary review of the regularly reported groundwater sampling events, the existing plume is an area of concern to the western portion of the site as, at least, minor groundwater impacts to the shallow unconsolidated aquifer are already demonstrated.

Other Potential Concerns Regarding Groundwater Quality

In addition to the reasonably well defined chlorinated VOC plume, the following additional areas of concern may provide a source of current or future groundwater contamination within the southwestern parcel:

- Known groundwater impact associated with the former sludge lagoon located immediately northwest of the Fleet Bank building (shown on the map);
- A former 5,000 gallon heating oil UST (formerly indicated as UST#1 in Environmental Risk Limited; *Risk Assessment Study of Storage Tanks at IBM Kingston, February 1987*) located immediately southeast of Building 202 of the current Fleet Bank facility (Area D on the Site Map). Documents reviewed subsequent to the aforementioned study indicate that this UST was removed in 1988 although no samples were collected to confirm or deny the occurrence of any release. No evidence of groundwater impact from this potential area of concern was noted during ENSR's preliminary review; and
- Although indicated for implementation in the 1993 RCRA Facility Investigation Work plan, extensive investigations of groundwater quality in the bedrock aquifer have not yet been completed. The lack of data on potential impacts to the bedrock aquifer in the plume area is a data gap that precludes opinion on potential impacts to the bedrock aquifer in the southwestern parcel. The geologic conceptual model for the site does identify the existence of a thick varved clay layer, which may prevent the vertical migration of contaminants to the bedrock aquifer. However, areas of shallow bedrock where the water table intersects bedrock may be a potential migration pathway (from the eastern to western parcel) for impact.

In addition to the above on-site potential areas of concern, four SPDES outfalls were identified north of the project site, near a former wastewater treatment plant. These outfalls currently discharge into an area with some contamination, however, the proposed facility will not utilize these outfalls and will instead discharge into the Hudson River.

Potential Area of Concern: (Area E on the Site Map)

ERM (1996) noticed an area of potential disposal to the southwest of the Salt Barn in a 1983 aerial photograph. They state that "this area of potential disposal may be related to the construction of B025." ERM recommended that the history of on-site solid waste disposal at the site requires additional research. It is unclear whether this area has been identified by USEPA as a potential SWMU or Area of Concern.

5.0 Implication for Construction Actions

Groundwater Management

Depth to groundwater in the southwestern portion of the site is less than 10 feet below grade in many areas. It would be expected that construction activities would encounter the water table for many required activities and appurtenances. The quality of the encountered water may represent an issue in terms of pre-treatment prior to discharge or possible off-site disposal. The characterization of groundwater quality in areas to be excavated is needed to minimize potential liabilities associated with dewatering potentially contaminated groundwater.

In addition, dewatering activities associated with foundation work will induce a hydraulic stress on the unconfined (shallow) aquifer. The proximity of any dewatering activities to the existing dissolved contaminant plume located immediately east of the southwestern parcel, may affect groundwater flow patterns and draw existing contamination towards the dewatering areas. This may result in the generation of significant volumes of contaminated groundwater that may require pre-treatment prior to discharge. If groundwater is significantly impacted by off-site conditions, negotiations with state or local agencies will be necessary over the disposition of this water.

Soil Management

The excavation of soils is likely to occur on a large scale during some phases of development of the site. Although previous investigations have found minimal impacts to soils, especially in the unsaturated zone, there is the potential for encountering soils that may require classification for potential waste disposal. Depending on the classification of contaminated soils, the soil may be disposed at an approved municipal landfill in NY State or at a licensed hazardous waste facility.

Wetlands

The ACOE would require evidence that the project as proposed on the subject site is the best alternative and involves the least amount of disturbance to

wetlands as possible. Avoidance, minimization, and mitigation efforts would need to be presented. Avoidance refers to utilizing alternate site layouts and ROWs in order to avoid disturbing wetlands. Minimization efforts describe techniques utilized during the construction of the facility to either reduce acreage of impacted wetlands during construction or Best Management Practice techniques that would minimize the extent of the change to the wetland. Finally, mitigation efforts address compensation for permanently impacted wetlands. Mitigation may be in the form of monetary compensation for the purpose of purchasing replacement land, restoration of wetlands on another portion of the existing site, or monetary contribution to a mitigation bank.

Historical Structures

There is an old stone house and a related barn on the Patel property which may be historic structures eligible for state or national registry. If the house site is needed for plant layout, mitigation measures, such as thorough documentation and creating a photographic record of the house will likely be required. The agencies may require further measures such as moving the house to an off-site location. The actual mitigation required will be determined through consultation with the State Historic Preservation Office (SHPO).

100-Year Flood Zone

The area of construction may be limited if there is a net fill limitation imposed by the Ulster Township Ordinance.

Easement and ROW

The easement and ROW located within the property will restrict the total area available for construction.

6.0 Further Definition of Site

This section is intended to list data gaps pertaining to potential AOCs within the southwestern parcel listed in section 4.0 and potential AOCs from offsite sources listed in Section 5.0.

Wetlands

The wetlands discussed in section 4.0 are largely isolated from probable offsite sources of contamination originating from the eastern portion of the site. The only potentially contaminated wetland is beyond the northern site boundary, to the west of the decommissioned wastewater treatment plant.

SWMU: Fill/PLSD Area

The area to the northwest of the Salt Barn has been characterized by soil and shallow groundwater sampling; the results of which indicated the existence of a

variety of contaminants at low levels. The contaminants are a likely result of historical operations at the site and do not represent an AOC that would require compliance under existing regulatory programs. However, additional activities, such as the resampling of the monitoring wells, may be advisable in order to document baseline groundwater quality in this area. It is not expected that further use of this area subsequent to 1994 would be cause for concern in terms of soil quality. As such, the existing data may be deemed sufficient to characterize existing soil quality and level of impact.

SWMU: Site-Wide Groundwater

As indicated in section 4.0, shallow groundwater quality is impacted in the southeastern portion of the southwestern parcel. Although the containment of the existing chlorinated VOC plume appears to be effective, there are significant areas of the southwestern parcel that do not contain monitoring wells, have not been previously investigated or contain wells that have not been sampled to determine the stability of the groundwater contamination. Therefore, additional baseline groundwater quality in the southwestern parcel is considered reasonable for due diligence purposes to establish current conditions. In addition, groundwater quality in the bedrock aquifer is largely unknown.

Other potential sources of groundwater contamination, the former UST and the former sludge lagoon, represent less significant potential sources. These potential sources may be addressed through sampling of existing monitoring wells that are positioned between the southwestern parcel and the aforementioned potential sources.

Potential Area of Concern

Located southwest of the Salt Barn is a potential AOC. This possible solid waste disposal site requires additional research. Limited soil sampling is recommended to characterize soil quality in this area.

7.0 Summary and Recommendations

Summary

Based on a preliminary review of documents provided for the TechCity site and a preliminary field survey for wetlands on the western parcel of the site, the following concerns are evident. (Note that the site is defined as the western parcel south of the northernmost corner of the Fleet Bank building and west of the Fleet Bank building including the Patel property displayed on Figure 1).

- The site, as defined, contains approximately 4.7 acres of wetlands regulated by the ACOE. Encroachment into the wetlands may occur and mitigation will be required. A wetland survey was not performed on the Patel property.

- Approximately 30% of the site is within the 100-year floodplain. A variance from the Township is required to build in this area, and a possible review by the ACOE may be needed (permit may be required).
- There are a stone house and barn on the Patel property that may be eligible for the state or national historic register. These structures need to be characterized as to what steps should be taken in the event that this area on the Patel property is needed to layout the facility.
- There are two potential areas of contamination associated with a former landfill and a possible landfill identified on the Site Map. In addition, there exists the possibility of contaminated groundwater migration from contaminated areas on the overall TechCity property to the east (VOC plume and UST) and north (sludge lagoon, landfill area).

Please note again that ENSR has not received any information on the rail spur location or the locations of gas, water, and electric Rights-of-Way, and subsequently, has been unable to comment on these features which will likely pose environmental concerns.

Recommendations

Soils Characterization

Based on the results of the preliminary review of files, we recommend that an initial site investigation be conducted for soils and groundwater. The soil investigation would include:

- Characterizing soil quality in the as yet uninvestigated potential cleared area identified in historical aerial photographs;
- Characterizing soil and sediment quality in wetlands areas that may have received discharges from the IBM site; and
- Characterizing soils in potential excavation areas as part of the planned construction activities for possible waste classification and disposal (soil management).

Groundwater Investigation

The groundwater investigation would include the sampling of existing monitoring wells as follows:

- Well or wells potentially downgradient of, or proximal to, former UST#1;

- Wells potentially downgradient of, or proximal to, the former sludge lagoon;
- Wells previously installed in the Salt Barn/Parking Lot Sand Disposal SWMU;
- Wells potentially downgradient of, or proximal to, the currently delineated chlorinated VOC plume;
- Any existing bedrock wells within the southwestern parcel would be investigated. If bedrock wells do not exist or are not located in the area of interest, then new wells would need to be developed; and
- Other selected wells at other locations within the southwestern parcel including areas where subsequent dewatering activities may be required for the development of the site (water management).

Based on the results of the proposed initial soil and groundwater investigation, additional investigative activities including, but not limited to, delineation of contaminated soils, installation and sampling of additional groundwater monitoring wells, may be indicated.

Wetland Delineation

- The Patel property needs to be investigated to identify and delineate wetlands.

Document Review

- The Ulster Township Ordinance needs to be reviewed to identify requirements and restrictions for construction in the floodplain;
- Deed Restrictions needs to be reviewed to identify use restrictions on the property.



Privileged and Confidential

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**Empire State Newsprint Project
Ulster Township, NY
Focused Phase II Investigation**

Draft February 2, 2000

Prepared By:
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Langhorne, Pennsylvania**

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EXECUTIVE SUMMARY

ENSR has completed a Focused Phase II Investigation at the proposed Empire State Newsprint Project site in Ulster Township, New York. The scope of work included installation of three bedrock monitoring wells, sampling and analyses of shallow groundwater from existing wells previously installed by IBM, sampling and analyses of shallow soil and sediment in areas of potential environmental concern, a preliminary geotechnical evaluation of soils, and the development of a technical report. The purpose of the investigation was to document baseline environmental conditions, and to determine whether: (a) upgradient off-site contamination has impacted the proposed ESNP site; (b) any groundwater remediation would be required; and (c) dewatering water from the proposed construction would require treatment prior to discharge to Esopus Creek.

Each bedrock well was installed to a depth of 130 feet below ground surface. Competent bedrock (shale/siltstone) was encountered at depths of 61.7 feet, 67.5 feet and 100 feet in wells BMW-1, BMW-2 and BMW-3, respectively. No appreciable quantities of groundwater were encountered in the bedrock to enable the collection of water samples for analysis or evaluation of groundwater flow in the bedrock aquifer.

Three borings were advanced in proposed construction areas for geotechnical characterization of the overburden soils. Sampling intervals were chosen to confirm continuity of characteristic soil horizons and document depths of soil type interfaces. Boring logs were developed detailing soil characteristics.

Laboratory analyses of five shallow groundwater samples revealed no detectable concentrations of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), or polychlorinated biphenyls (PCBs). Several metals (total concentrations) were detected above New York State's ambient water quality standards. Elevated concentrations of metals were also detected in two shallow soil samples and three sediment samples collected from potential areas of concern at the site. It is ENSR's professional opinion that the contaminant levels do not pose an imminent threat to human health or the environment, and that any groundwater generated during proposed dewatering associated with construction will require minimal treatment. There is no evidence that the elevated concentrations of metals in site soils, sediment or groundwater are a result of an off-site impact from the IBM property. However, some of the same metals were identified by IBM as part of their RCRA compliance efforts, and no additional action was required as part of the RCRA corrective action plan for the property.

1.0 INTRODUCTION

This report presents the findings of a Phase II investigation performed by ENSR at the proposed Empire State Newsprint Project (ESNP) site, located at the southwestern portion of the TechCity complex in Ulster Township, New York (Figure 1). The Phase II investigation consisted of a focused soil and groundwater quality assessment to document baseline environmental conditions, and to determine whether: (a) upgradient off-site contamination has impacted the proposed ESNP site; (b) any groundwater remediation would be required; and (c) dewatering water from the proposed construction would require treatment prior to discharge to Esopus Creek.

The scope of work for this investigation was developed based on the findings and recommendations of ENSR's *Preliminary Summary of the TechCity Site for Environmental Considerations* dated October 29, 1999. ENSR has completed installation of three bedrock monitoring wells, groundwater sampling from five existing overburden wells, shallow soil and sediment sampling, and advancement of three soil borings for geotechnical characterization of soils (Figure 2). The following sections of this report present an overview of the investigation, including preparation activities, field observations, sampling methodologies, analytical results, conclusions and recommendations.

2.0 SCOPE OF WORK

2.1 Field Preparation

2.1.1 Utility Markout

ENSR contacted the New York State Underground Facilities Protective Organization (UFPO) prior to field mobilization to coordinate a markout of underground utilities in the vicinity of the areas to be investigated. Underground utilities were identified prior to the commencement of field activities.

2.1.2 Health and Safety Plan

Prior to implementation of the field activities, ENSR prepared a site-specific health and safety plan (HASP) describing the proposed investigative work and the potential safety hazards anticipated for each activity. The HASP includes health and safety procedures for working on-site and emergency response procedures. A copy of the HASP is included in Appendix A.

2.2 Field Methodologies

2.2.1 Installation of Bedrock Wells

On January 11-14, 2000, Nothnagle Drilling of Scottsville, New York installed three bedrock monitoring wells (E-1, E-2 and E-3) under the supervision of an ENSR geologist. Six-inch diameter steel casing was advanced at each location through the overburden and weathered bedrock until refusal was encountered on competent bedrock. Unsaturated sand and gravel deposits were encountered to a depth of approximately 15 to 20 feet, underlain by wet, gray to brown lacustrine clay. Competent bedrock (gray shale/siltstone of the lower Hamilton Group of Devonian age) was encountered in wells E-1, E-2 and E-3 at 61.7 feet below ground surface (bgs), 67.5 feet bgs, and 100 feet bgs, respectively. Each well was installed using air rotary methods to a depth of approximately 130 feet bgs, and completed with a stick-up protective casing and locked cap. Well construction logs are provided in Appendix B. As of January 14, 2000, groundwater had not entered any of the three bedrock wells; therefore, no sampling was performed and a groundwater flow assessment was not possible. An elevation survey was performed pursuant to future completion of the assessment. Should a wet winter and spring cause groundwater to enter the boreholes, sampling of the wells may be recommended.

All drilling materials are being temporarily stored on and under plastic sheeting adjacent to each well. Due to the weather conditions at the time of installation, the drill cuttings are frozen in place. As there was no indication of contamination during drilling based on field screening methods, the drilling materials will be graded in areas that will not cause an erosion hazard.

2.2.2 Shallow Groundwater Quality Investigation

ENSR gauged eight existing shallow zone monitoring wells (installed by IBM) for depth to water and bottom of well data, and sampled groundwater from five of the wells to document shallow groundwater quality. The purpose of the shallow groundwater investigation was to assess whether chlorinated VOCs detected on the upgradient IBM property have migrated to the proposed site, and whether proposed dewatering activities during construction would induce contaminant migration and impact site conditions. The depths of the wells varied from 7.80 feet (MW-1) to 62.34 feet (MW-3). Depth to water varied from 11.48 feet (MW-243S) to 26.44 feet (MW-3). No water was measured in wells MW-1 and MW-245S, and the water column within well MW-243S was insufficient to allow for purging and sampling. Based on the measured depths of wells MW-1 (7.80'), MW-245S (11.76') and MW-243S (11.73'), in comparison to the measured depths to water (12.90' to 18.90') in other nearby wells, it is evident that the seasonal water table is deeper than the screened intervals, resulting in no standing water column within these three wells. Samples were collected from wells MW-3, MW-240S, MW-241S, MW-242S and MW-244S for laboratory analysis.

Physical characteristics of the groundwater were monitored during purging of the wells to determine when a viable sample could be collected. Purging was performed using a submersible pump and hand-bailing methods, and sampling was performed utilizing dedicated disposable bailers. The groundwater samples were submitted under chain-of-custody to Friend Laboratory, Inc. (Friend Lab) of Waverly, New York for laboratory analysis. Each sample was analyzed for Target Compound List Volatile Organic Compounds (TCL VOCs), Target Compound List Semivolatile Organic Compounds (TCL SVOCs), polychlorinated biphenyls (PCBs), and total Target Analyte List Metals (TAL Metals). One field (rinsate) blank was collected and submitted for quality assurance purposes for full analysis. A trip blank accompanied the samples and was analyzed for TCL VOCs only.

Purge and decontamination water were screened with a photoionization detector (PID) for the presence of VOCs. No detectable readings were obtained; therefore, the water was discharged to the ground surface adjacent to the wells.

2.2.3 Sediment Sampling

ENSR collected shallow (0" to 6") sediment samples from three locations (SED-1, SED-2 and SED-3) within the drainage channel along the southern boundary of the Patel property. This drainage channel likely receives surface runoff and shallow overburden drainage from the adjacent properties. Sample SED-1 was collected from the vicinity of an observed drainage pipe, in a sediment accumulation area nearest the IBM property. SED-2 and SED-3 were collected from downstream sediment accumulations. Samples were collected using a stainless steel hand auger and/or trowel. The sediment samples were submitted under chain-of-custody to Friend Lab for laboratory analysis. Each sample was analyzed for TCL VOCs, TCL SVOCs, PCBs, and total TAL Metals.

2.2.4 Shallow Soil Sampling

ENSR collected shallow (12"-18") samples from a debris pile (DP-1) and a disturbed area with exposed non-native soil cover near the salt storage shed (SS-1). Samples were collected using a stainless steel hand auger and trowel. The soil samples were submitted under chain-of-custody to Friend Lab for laboratory analysis for TCL VOCs, TCL SVOCs, PCBs, and total TAL Metals.

2.2.5 Geotechnical Borings

Maxim Technologies, Inc. of Mechanicville, New York advanced three soil borings (GT-1, GT-2 and GT-3) under the supervision of an ENSR geologist in areas of proposed structures associated with the Empire State Newsprint Project. Soil samples were collected using direct drive drilling techniques and a two-foot or four-foot macrocore sampling device. Sampling was performed continuously at location GT-2 for full characterization of the soil column. Sampling was performed in the other two locations at intervals appropriate to confirm continuity of characteristic soil horizons and document depths of soil type interfaces. Soils were characterized using the Unified Soil Classification System and Munsell Color Charts. Boring logs are provided as Appendix C.

3.0 ANALYTICAL RESULTS

3.1 Shallow Groundwater Quality Investigation

Table 1 summarizes the shallow groundwater analytical data. All analytical results for organic constituents are below screening levels recognized by the State of New York. There were no VOCs, SVOCs, or PCBs detected in any of the groundwater samples above method detection limits. There is no evidence in the groundwater samples of an off-site impact from the IBM property. If organic contaminants existed in the on-site monitoring wells in the past, the contaminants have since attenuated to below detection levels.

The analytical results for TAL Metals indicate that several metals (total concentrations) were detected in the shallow groundwater above New York State Water Quality Standards for Surface Waters and Groundwater (6 NYCRR 703.5, Table 1). Ambient surface water quality standards would be used to derive effluent limits for the point source discharges to a surface water body (e.g., dewatering discharge to Esopus Creek during construction). Table 1 summarizes the total metals results for each of the five shallow groundwater samples in comparison to the ambient groundwater standards and surface water quality standards for Esopus Creek (Class C, fresh surface water). Since the best usage of Class C waters is fishing, most of the ambient surface water quality standards are derived based on the aquatic chronic impact.

The preliminary laboratory analytical data reports are provided as Appendix D. The final laboratory report package will be forwarded upon receipt.

3.2 Sediment Sampling

Table 2 provides a summary of the sediment quality data in comparison to the New York State Technical and Administrative Guidance Memorandum (TAGM) recommended soil cleanup objectives. TAGM's generic soil cleanup objectives are intended to eliminate all significant threats to human health and/or the environment posed by the site under evaluation. For heavy metals, eastern United States or New York State soil background levels are used as soil cleanup objectives, although generic recommended soil cleanup objectives have been established for certain metals. Generally, the TAGM criteria are used by New York State as screening criteria and they do not represent a remediation requirement. Any required remediation would be based on a site-specific assessment of site background levels and actual risks to human health and the environment.

The laboratory results indicate that no VOCs, SVOCs or PCBs are present in the sediment samples above the method detection limits. With respect to inorganic constituents in sediment, low levels of beryllium, calcium, chromium, iron, nickel, and zinc were detected above their respective generic

TAGM recommended soil cleanup objectives or typical eastern U.S. background ranges. Beryllium was detected at 0.34 mg/kg in SED-1; calcium was detected at 36,100 mg/kg in sediment sample SED-1; chromium was detected at 22.7 mg/kg in SED-1; iron was detected at 16,400 mg/kg in SED-1, 10,400 mg/kg in SED-2, and 13,900 mg/kg in SED-3; nickel was detected at 39.2 mg/kg in sediment sample SED-1, 19.7 mg/kg in SED-2, and 17.3 mg/kg in SED-3; and zinc was detected at 427 mg/kg in SED-1, 37.4 mg/kg in SED-2, and 69.6 mg/kg in SED-3.

3.3 Shallow Soil Sampling

Table 3 provides a summary of the soil quality data. No VOCs or PCBs were detected above method detection limits in either sample. With the exception of 89 mg/kg of benzo(b)fluoranthene detected in soil sample DP-1, which was obtained from a debris pile, there were no semivolatile organic compounds detected in either of the shallow soil samples analyzed. This concentration, however, is far below the New York State TAGM criteria for benzo(b)fluoranthene.

TAL Metals were detected in both soil samples analyzed. Concentrations of iron, nickel, and zinc in both soil samples exceeded the generic TAGM recommended soil cleanup objectives or typical eastern U.S. background ranges. Iron was detected at 14,900 mg/kg in sample DP-1 and 13,400 mg/kg in SS-1; nickel was detected at 14.5 mg/kg in sample DP-1 and 15.2 mg/kg in SS-1; and zinc was detected at 67.6 mg/kg in DP-1 and at 33.9 mg/kg in SS-1.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The rock encountered in each bedrock monitoring well installed by ENSR was composed of bedded shale and siltstone, which is part of the Devonian Lower Hamilton Group. Very often when drilling in siltstone and sandstone bedrock, it is difficult to determine whether water bearing fractures are encountered due to the air rotary methods and heat generated through drilling. ENSR allowed the wells to "rest" for a few hours with the hope of encountering sufficient water for sampling. No water was measured in any of the wells prior to ENSR's departure from the site. Depth to significant water bearing fractures appears to be greater than 130 feet. It is important to recognize, however, that a wet winter and spring could raise water levels within the bedrock aquifer such that sufficient quantities of groundwater may exist in the future. However, from a hydrogeologic perspective, the probability of an off-site influence from IBM is greatly diminished because the hydraulic conductivity of the bedrock formation is so small.

The analytical results obtained from shallow groundwater samples do not indicate an off-site impact from the IBM property; however, elevated total concentrations of metals were detected in the samples. Most of the metal ambient water quality standards are for dissolved (filtered samples) metals and the sample results obtained during this investigation are total metals (unfiltered samples). It is important to recognize that the "total metals" concentration reported in the shallow monitoring wells may be biased high. ENSR believes the presence of increased suspended sediment in the samples (particularly clay particles) have resulted in elevated inorganic concentrations. ENSR's experience has shown that metals concentrations from field-filtered samples (e.g. "dissolved metals") will generally be less than "total metals" analyses by an order of magnitude or more. It appears that all of the shallow monitoring wells have a portion of their well screens penetrating the underlying clay unit at the site, which is consistent with a suspended sediment theory. The anomalous concentrations of iron and aluminum in the water samples further supports a suspended sediment bias in the samples.

Furthermore, it should be recognized that the results are from shallow wells over a landfill area, and are likely to reflect the worst case. If the contamination is associated with leachate from the landfill, then the dewatering water from a larger area is likely to have lower levels of inorganic metals due to dilution effect. Any treatment of extracted groundwater prior to surface water discharge would be based on actual impacts to human health and the environment as well as an assessment of the receiving water body and its ability to accept inorganic constituents.

ENSR recommends that the wells be resampled for dissolved metals (in addition to total metals). This resampling will account for any biases related to suspended sediment in the samples, and the data will provide the necessary information to design an appropriate groundwater treatment system for construction dewatering.

ENSR has compared the groundwater quality data from the shallow overburden wells to the in-stream water quality criteria for Esopus Creek. Based on the total metals results received to date, it appears that groundwater generated during proposed dewatering will require minimal treatment. While some of the building foundations will be constructed on pilings, it is expected that dewatering will be necessary to construct certain structures such as the paper machines. Without actual pump test data, it is difficult to predict the volume of groundwater to be generated during construction dewatering. However, the presence of a significant underlying clay and the presence of an overlying sand and gravel unit with a saturated thickness of only two to three feet (i.e. low transmissivity), indicates that dewatering may be easily achieved by pumping a well-point system. Given that excessive dewatering is not expected based on existing site conditions, ENSR believes that any water requiring treatment prior to discharge to Esopus Creek may be treated using relatively inexpensive conventional technologies such as settling tank or basin and filtration to remove suspended solids thereby reducing the total metals in the effluent discharged to the Creek. In ENSR's opinion, further treatment such as polymer addition and pH adjustment is not likely to be needed for dewatering water discharge to Esopus Creek. This can be confirmed after reviewing the filtered and unfiltered sample results for the inorganic metals. Assuming the total metals data is representative of the shallow groundwater quality, and the volume of water generated during construction dewatering is consistent with the site conditions identified by ENSR during its recent investigations (less than 100,000 gpd), it is ENSR's professional opinion that such treatment, if required, will not exceed \$1 million during construction.

It is ENSR's understanding that a municipal water supply serves the property. Due to the increased levels of naturally occurring inorganics, and the high clay content, groundwater from the shallow overburden unit (<50' depth) is generally not considered suitable for potable supply purposes. Virtually all of the wells used for potable water are completed as deep bedrock wells. While many of these metals, such as calcium, iron, magnesium, manganese, potassium, and sodium occur naturally in sediments and may be within acceptable background concentrations for this area, the presence of lead, nickel, and chromium appear to be anomalous and does not appear to be consistent with a background origin. It is possible that the lead, nickel, and chromium may be related to past disposal practices on the property. Much of the area evaluated by ENSR consists of disturbed land that was likely filled with soil materials to raise its topographic elevation.

The review of the limited TechCity data supplied to ENSR also showed that some of these metals were also present in the shallow monitoring wells installed by IBM as part of their RCRA compliance efforts. However, no additional action was required as part of the RCRA corrective action plan for the property. New York's Groundwater Quality Standards are based on drinking water criteria. Non-compliance with these levels does not necessarily entail a remediation requirement, since these levels are used solely by NYDEC as a screening criteria. ENSR's experience has shown that the contaminant levels detected in the groundwater do not pose an imminent threat to human health and the environment.

TABLES



Table 1
Groundwater Sampling Results
Empire State Newsprint
Ulster Township, NY

	Ambient Water Quality Standards		Groundwater Quality Standards		MW-240S	MW-241S	MW-242S	MW-244S	MW-3
	Esopus Creek	Class C freshwaters	Esopus Creek	Class C freshwaters					
Aluminum	100		NS		2,460	42,100	454	20,500	47,300
Antimony	NS		3		ND	ND	ND	ND	68
Arsenic	150		25		3	ND	ND	29	
Barium	NS		1,000		57	144	ND	72	817
Calcium	NS		NS		75,600	84,600	91,400	76,000	NA
Chromium	45		50		ND	55	ND	ND	917
Cobalt	5		NS		ND	25	10	31	72
Copper	5.3		200		ND	68	10	37	149
Iron	300		300		11,700	57,700	20,400	42,400	124,000
Lead	2		25		4	110	1	20	49
Magnesium	NS		NS		11,100	16,800	11,300	12,900	43,900
Manganese	NS		300		3,210	1,680	2,300	2,690	6,480
Mercury	0.0007		0.7		ND	ND	ND	ND	ND
Nickel	31		100		ND	71	ND	47	903
Potassium	NS		NS		8,450	11,500	6,720	9,800	9,140
Sodium	NS		20,000		89,300	78,500	62,200	105,000	7,360
Vanadium	14		NS		ND	64	ND	24	84
Zinc	49		NS		23	153	ND	108	309

Notes:
 All results are reported in µg/L
 Bold indicates result exceeds the Ambient Water Quality Standards for Esopus Creek.
 Ambient Water Quality Standards for Esopus Creek (Ref. NYCRR 703.5)
 Groundwater Quality Standards (Ref. NYCRR 703.5)
 NS: No Standard
 Aluminum criteria based on aquatic chronic criteria; A(C)
 Chromium, copper, lead, nickel, and zinc criteria based on 54 mg/l hardness, dissolved; A(C)
 Mercury criteria based on Fish Consumption Health criteria; H(FC)
 Vanadium criteria (acid soluble) is based on aquatic chronic criteria; A(C)
 Iron and manganese combined concentration shall not exceed 500 µg/L
 Where a standard exists for groundwater quality, it is based on drinking water use; H(WS)

Table 2
Sediment Sampling Results
Empire State Newsprint
Ulster Township, NY

Sample Designation	NYSDEC	SED-1	SED-2	SED-3
Date Collected	TAGM	1/11/00	1/11/00	1/11/00
Time Collected	Recommended	1235	1450	1455
Sample Depth (feet)	Soil Cleanup Objectives	0-0.5'	0-0.5'	0-0.5'
TCL Volatile Organic Compounds (ug/kg)	NS	ND	ND	ND
TCL Semivolatile Organic Compounds (ug/kg)	NS	ND	ND	ND
Target Analyte Metals (mg/kg)				
Aluminum	33,000*	8,920	5,340	7,220
Antimony	NS*	7.74	ND	ND
Barium	300	139	41.6	37.5
Beryllium	0.16	0.335	ND	ND
Calcium	130-35,000*	36,100	576	1,050
Chromium	10	22.7	7.04	8.83
Cobalt	30	8.99	3.87	5.26
Copper	25	13.8	6.13	12.5
Iron	2,000	16,400	10,400	13,900
Lead	NS*	41.1	11.8	19.1
Magnesium	100-5,000*	2,870	1,930	2,630
Manganese	50-5,000*	4,800	1,910	277
Nickel	13	39.2	19.7	17.3
Potassium	8,500-43,000*	746	378	432
Sodium	6,000-8,000*	176	69	62.8
Vanadium	150	18.1	7.8	10.5
Zinc	20	427	37.4	69.6
PCBs (mg/kg)	NS	ND	ND	ND

ND: Not detected at laboratory quantification limit

NS: No standard established

Bold indicates concentration above NYSDEC TAGM

*Cleanup objective is based on site background concentrations. An eastern U.S. background range is provided where available.

Ref: Technical and Administrative Guidance Manual

Where a background range is not provided, the TAGM is based on unrestricted direct contact exposure.

Table 3
Soil Sampling Results
Empire State Newsprint
Ulster Township, NY

Sample Designation	NYSDEC	DP-1	SS-1
Date Collected	TAGM	1/11/00	1/11/00
Time Collected	Recommended	1535	1615
Sample Depth (feet)	Soil Cleanup Objectives	1-1.5'	1-1.5'
TCL Volatile Organic Compounds (ug/kg)	NS	ND	ND
TCL Semivolatile Organic Compounds (ug/kg)	NS		ND
Benzo(b)fluoranthene	1,100	89 J	
Target Analyte Metals (mg/kg)			
Aluminum	33000*	10,100	6,940
Barium	300	46.5	15.8
Calcium	130-35,000*	2,230	150
Chromium	10	9.92	7.39
Cobalt	30	4.86	5.71
Copper	25	19	7.06
Iron	2,000	14,900	13,400
Lead	NS*	37.5	10
Magnesium	100-5,000*	2,120	2,540
Manganese	50-5,000*	269	363
Nickel	13	14.5	15.2
Potassium	8,500-43,000*	638	593
Sodium	6,000-8,000*	64.1	45.9
Vanadium	150	13.4	9.26
Zinc	20	67.6	33.9
PCBs (mg/kg)	NS	ND	ND

ND: Not detected at laboratory quantification limit

NS: No standard established

Bold indicates concentration above NYSDEC TAGM

*Cleanup objective is based on site background concentrations. An eastern U.S. background range is provided where available.

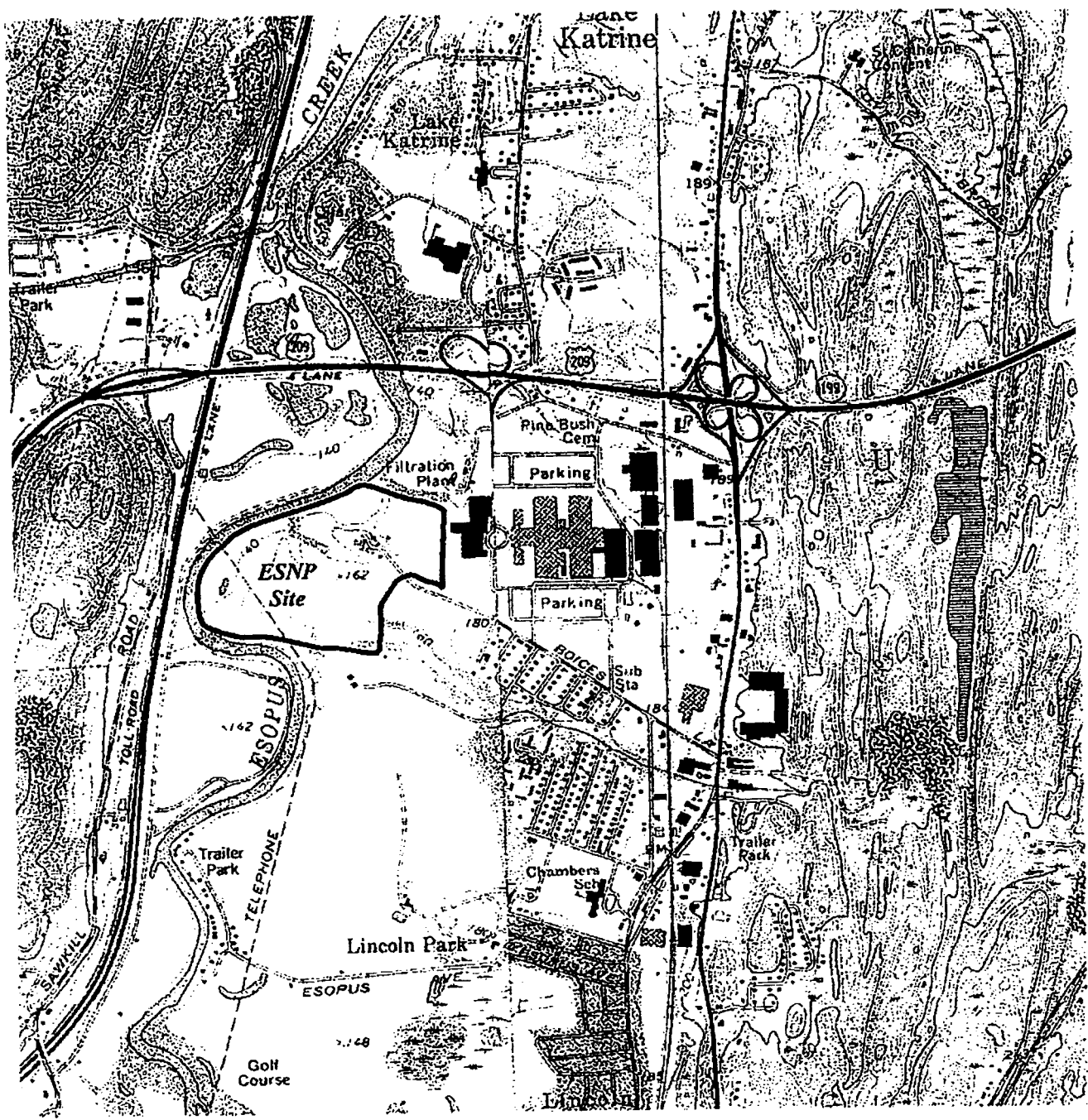
Ref: Technical and Administrative Guidance Manual

Where a background range is not provided, the TAGM is based on unrestricted direct contact exposure.



FIGURES





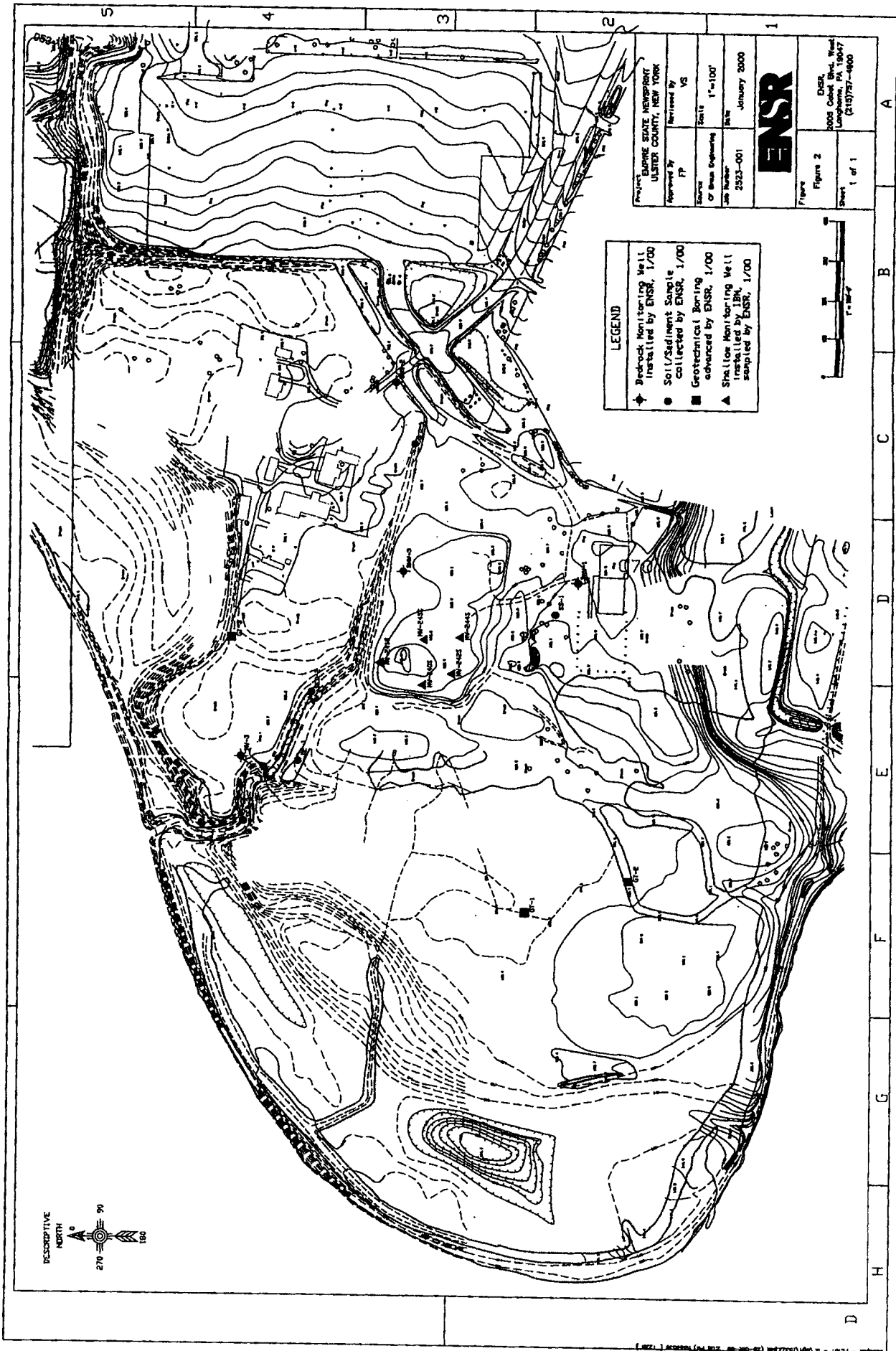
SOURCE: USGS Quadrangle, Kingston East, NY, 1963
 Photorevised, 1980
 USGS Quadrangle, Kingston West, NY 1964
 Photorevised, 1980
 Not to Scale



ENSR
 ENSR Consulting and Engineering

Figure 1
 Site Location
 Empire/Besicorp
 Ulster, New York

DRAWN: VAD	DATE: January 2000	PROJECT NO.: 2523-001	REV:
FILE NO.:	CHECKED:		



APPENDIX A



HEALTH AND SAFETY PLAN

Preliminary Soil, Sediment and Groundwater Investigation
at
Southwestern Parcel
Ulster Township, New York

Prepared by: Kathleen Harvey

Approved by: _____
ENSR Regional Health and Safety Manager

Date: _____

Approved by: _____
ENSR Project Manager

Date: _____



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1. Introduction

1.1 HASP Applicability

This site-specific Health and Safety Plan (HASP) has been developed by ENSR Consulting and Engineering (ENSR). It establishes the health and safety procedures to minimize any potential risk to ENSR and contractor personnel involved with the implementation of the preliminary soil, sediment and groundwater investigation at the southwestern parcel at the TechCity Site in Ulster Township, New York. ENSR is performing this work at the request of Bessicorp Group Inc.

The provisions of this plan apply to all ENSR personnel and ENSR subcontractor personnel who may potentially be exposed to safety and/or health hazards related to activities described in Section 3.0 of this document.

This HASP has been written to comply with the requirements of the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120). All activities covered by this HASP must be conducted in complete compliance with this HASP and with all applicable federal, state, and local health and safety regulations. Personnel covered by this HASP who cannot or will not comply will be excluded from site activities.

This plan will be distributed to each employee involved with investigations at the site. Each employee must sign a copy of the attached health and safety plan receipt and acceptance form (see Attachment A).

This HASP only pertains to the tasks that are listed in Section 3.0. A task specific HASP or addenda to this HASP will be developed at a later date for any other subsequent investigative/remedial activities at the site.

1.2 Organization/Responsibilities

The implementation of health and safety at this project location will be the shared responsibility of the ENSR Project Manager (PM), the ENSR Regional Health and Safety Manager (RHSM), the ENSR Project Site Safety Officer (SSO) and all other ENSR and contractor personnel.

1.2.1 ENSR Project Manager

The ENSR PM (Ron Carper) is the individual who has the primary responsibility for ensuring the overall health and safety of this project. As such, the PM is responsible for ensuring that

the requirements of this HASP are implemented. Some of the PM's specific responsibilities include:

- Assuring that all personnel to whom this HASP applies have received a copy of it;
- Providing the RHSM with updated information regarding environmental conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SSO and RHSM;
- Maintaining regular communications with the SSO and, if necessary, the RHSM; and,
- Coordinating the activities of all subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project.

1.2.2 ENSR Regional Health and Safety Manager

The ENSR RHSM (Kathleen Harvey) is the individual responsible for the preparation, interpretation and modification of this HASP. Modifications to this HASP which may result in less stringent precautions cannot be undertaken by the PM or the SSO without the approval of the RHSM. Specific duties of the RHSM include:

- Writing, approving and amending the HASP for this project;
- Advising the PM and SSO on matters relating to health and safety on this site;
- Recommending appropriate personal protective equipment (PPE) and air monitoring instrumentation to protect personnel from potential site hazards;
- Conducting accident investigations; and,
- Maintaining regular contact with the PM and SSO to evaluate site conditions and new information which might require modifications to the HASP.

1.2.3 ENSR Site Safety Officer

All ENSR field technicians are responsible for implementing the safety requirements specified in this HASP. However, one field technician will serve as the SSO. The SSO will be appointed by the PM. The SSO will be on-site during all activities covered by this HASP. The SSO is responsible for enforcing the requirements of this HASP once work begins. The SSO has the authority to immediately correct all situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger is perceived. Some of the SSO's specific responsibilities include:

- Assuring that all personnel to whom this HASP applies have submitted a completed copy of the HASP receipt and acceptance form;
- Assuring that all personnel to whom this HASP applies have attended a pre-entry briefing prior to entering an exclusion zone;
- Maintaining a high level of health and safety consciousness among employees at the work site;
- Procuring and distributing the PPE needed for this project for ENSR employees;
- Procuring the air monitoring instrumentation required and performing air monitoring for ENSR activities;
- Verifying that all PPE and health and safety equipment is in good working order;
- Setting up and maintaining the decontamination zone and assuring proper cleanup of all site personnel;
- Notifying the PM of all noncompliance situations and stopping work in the event that an immediate danger situation is perceived;
- Monitoring and controlling the safety performance of all personnel within the established restricted areas to ensure that required safety and health procedures are being followed;
- Conducting accident/incident investigations and preparing accident/incident investigation reports;

-
- Conducting the pre-entry briefing as required by Section 10.2.1 of the HASP; and,
 - Initiating emergency response procedures in accordance with Section 11.0 of this HASP.

1.2.4 ENSR Field Personnel and Covered Contractor Personnel

All ENSR field personnel and contractor personnel covered by this HASP are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Reading the HASP in its entirety prior to the start of on-site work;
- Submitting a completed HASP Acceptance Form and documentation of medical surveillance and training to the ENSR PM prior to the start of work;
- Attending the required pre-entry briefing prior to beginning on-site work;
- Bringing forth any questions or concerns regarding the content of the HASP to the PM or the SSO prior to the start of work;
- Reporting all accidents, injuries and illnesses, regardless of their severity, to the ENSR SSO; and
- Complying with the requirements of this HASP and the requests of the SSO.

1.2.5 Subcontractors

In addition to other requirements referenced in this HASP, all contractors are required to:

- Provide appropriate PPE for their employees;
- Ensure, via daily inspections, that their equipment is maintained in good working condition;
- Operate their equipment in a safe manner; and
- Appoint an on-site safety coordinator to interface with the ENSR SSO.

1.3 Modification of the HASP

The procedures in this HASP have been developed based on the *Preliminary Summary of the TechCity Site for Environmental Considerations Report* prepared by ENSR in October, 1999. Should additional information become available regarding potential on-site hazards, it may be necessary to modify this HASP. All proposed modifications to this HASP must be reviewed and approved by the ENSR RHSM before such modifications are implemented.

Any significant modifications must be incorporated into the written document as addenda and the HASP must be reissued. The ENSR PM will ensure that all personnel covered by this HASP receive copies of all issued addenda. Sign-off forms will accompany each addendum and must be signed by all personnel covered by the addendum. Sign-off forms will be submitted to the ENSR PM. The HASP addenda should be distributed during the daily safety meeting so that they can be reviewed and discussed. Attendance forms will be collected during the meeting.

2. Site Description and History

2.1 Site Description

The proposed site is located in Ulster Township. Specifically, it is the southwestern portion of the TechCity complex, a former IBM manufacturing facility. The complex is divided into east and west parcels by Enterprise Drive. The majority of IBM manufacturing activities occurred on the eastern parcel of the complex. The western parcel, excluding the northern section, is the proposed location for the Empire State Newsprint Project.

Prior to 1954, the subject site appeared to be largely undeveloped with the exception of a 2,000 foot airport runway along the west side of Enterprise Drive. Historically, the area was used as cultivated cropland. Currently, the majority of the site remains undeveloped, with the exception of a Salt Barn (B070) built in the late 1980s, a farmhouse, other dwellings on the Patel property (which bisects the western parcel) and a large paved area. There are three office buildings located along Enterprise Drive (the eastern boundary of the subject site). Fleet Bank is the current tenant. There is a large parking lot associated with these buildings.

2.2 Site Investigations

ENSR has prepared a report to identify fatal flaws for siting the Empire State Newsprint Project at the TechCity complex. ENSR looked at existing features and potential areas of concern (AOC) to identify any potential concerns associated with siting the facility on the southwestern portion of the complex. ENSR's findings include the following:

- A potential disposal area is located to the southwest of the Salt Barn and may be related to the construction of B025.
- Groundwater sampling has been conducted on a regular basis at the complex since 1978 in response to previous discharges of chlorinated solvents. The currently marked plume includes a small area of impact on the site's western portion.
- A known groundwater impact associated with the former sludge lagoon is located immediately northwest of the Fleet Bank Building.
- A former 5,000-gallon heating oil underground storage tank (UST #1) was removed in 1988 although no samples were collected to confirm or deny the occurrence of a release.
- Groundwater quality in the bedrock aquifer has not been characterized.

3. Scope of Work

To address the findings and recommendations in ENSR's *Preliminary Summary of the TechSite for Environmental Considerations Report*, the following on-site field tasks will be implemented:

- collect surface soil samples from the potential disposal area located southwest of the Salt Barn;
- install bedrock groundwater monitoring wells, using air-rotary drilling techniques;
- conduct two rounds of well gauging in new and existing wells to determine groundwater flow and gradient across the site;
- collect groundwater samples from newly installed groundwater wells and from selected existing shallow zone monitoring wells for subsequent laboratory analyses; and,
- collect sediment samples from several isolated wetlands and a drainage swale of unknown former use but which originates on the IBM property

4. Chemical Hazard Assessment and Controls

4.1 Chemical Hazards

4.1.1 Chlorinated Solvents in Groundwater

Overexposure to the chlorinated organic solvents likely to be present in the site groundwater may result in depression of the central nervous system, symptoms of which include, dizziness, headache, giddiness and drunken-like behaviors. Chronic overexposures can result in liver and kidney damage.

4.1.2 Fuel Oils

It is possible that fuel oil may be present in groundwater due to a former 5,000-gallon heating oil UST. Fuel oil is generally considered to be of moderate to low toxicity. Federal or recommended airborne exposure limits have not been established for the vapors of fuel oil. Inhalation of the vapor or mist may cause headache, dizziness, nausea, vomiting and a loss of coordination. Inhalation of high concentrations of the vapors may cause extensive pulmonary edema. Chronic direct skin contact with the liquids may produce skin irritation as a result of defatting. Repeated skin contact may also cause irritation of the hair follicles and block the sebaceous glands. This produces a rash of acne pimples and spots, usually on the arms and legs.

4.1.3 Hazardous Substances Brought On-Site by ENSR

A material safety data sheet (MSDS) must be available for each hazardous substance that ENSR bring on the property. This includes solutions/chemicals that will be used to decontaminate sampling equipment. All containers of hazardous materials must be properly labeled in accordance with OSHA's Hazard Communication Standard.

4.2 Chemical Exposure and Control

4.2.1 Chemical Exposure Potential

The site may be impacted by previous activities associated with former IBM manufacturing operations. It is therefore possible that the field team will encounter contaminated soil and/or groundwater during this investigation. While the concentrations of contamination are not expected to be significant, the use of air rotary drilling techniques may increase the amount of dusts and vapors generated during well installation. The primary routes of exposure to the contaminants of concern are expected to be:

- dermal contact with soil and/or groundwater during sample collection.

-
-
- Inhalation of vapors/dusts during bedrock well drilling

4.2.2 Chemical Exposure Control

ENSR will be conducting air monitoring to determine the presence of volatile organic vapors during the proposed drilling. As a precaution, if exposures exceed the action levels as defined in Section 6.1, respiratory protection as discussed in Section 7.2, will be donned.

To avoid direct dermal contact with contaminated media, protective clothing, as described in Section 7.1, will be required when collecting samples and decontaminating sampling equipment.

Although highly unlikely, exposure to all of the contaminants of concern may occur via ingestion (hand-to-mouth transfer). The decontamination procedures described in Section 9.0 address personal hygiene issues that will limit the potential for contaminant ingestion.

5. Physical Hazards and Controls

5.1 Underground Utility Hazards

New York law requires that, at least 48 hours prior to initiation of any subsurface work, a utility clearance be performed at the site. ENSR has contacted the Underground Facilities Protective Organization (1-800-962-7962) to request a mark-out of utilities in the proposed drilling locations. Work will not begin until the required utility clearances have been performed.

Public utility clearance organizations typically do not mark-out underground utility lines that are located on private property. As such, ENSR must exercise due diligence and try to identify the location of any private utilities on the properties being investigated. ENSR can fulfill this requirement in several ways, including:

- obtaining as-built drawings for the areas being investigated from the property owner
- identifying a no-drill zone at each property;
- hand digging in the proposed boring locations if insufficient data is available to accurately determine the location of the utility lines;
- performing a line locating survey; or
- hiring a private line locating firm to determine the location of utility lines that are present at the property

5.2 Overhead Hazards

Be particularly aware of overhead power lines in the work area. Any vehicle or mechanical equipment capable of having parts of its structure elevated (drill rig, crane etc.) near energized overhead lines shall be operated so that a clearance of at least 10 feet is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 inches for every 10kV over that voltage..

5.3 Drilling Hazards

Use of a drill rig to install bedrock groundwater monitoring wells will require all personnel in the vicinity of the operating rig to wear steel-toed boots, hardhats, hearing protection and safety eyewear. Personnel shall not remain in the vicinity of operating equipment unless it is required for their work responsibilities.

Additionally, the following safety requirements must be adhered to:

- All drill rigs and other machinery with exposed moving parts must be equipped with an operational emergency stop device. Drillers and geologists must be aware of the location of this device. This device must be tested prior to job initiation and periodically thereafter. The driller and helper shall not simultaneously handle augers unless there is a standby person to activate the emergency stop.
- The driller must never leave the controls while the tools are rotating unless all personnel are kept clear of rotating equipment.
- A long-handled shovel or equivalent must be used to clear drill cuttings away from the hole and from rotating tools. Hands and/or feet are not to be used for this purpose.
- A remote sampling device must be used to sample drill cuttings if the tools are rotating or if the tools are readily capable of rotating. Samplers must not reach into or near the rotating equipment. If personnel must work near any tools which could rotate, the driller must shut down the rig prior to initiating such work.
- Drillers, helpers and geologists must secure all loose clothing when in the vicinity of drilling operations.
- Only equipment which has been approved by the manufacturer may be used in conjunction with site equipment and specifically to attach sections of drilling tools together. Pins that protrude excessively from augers shall not be allowed
- No person shall climb the drill mast while tools are rotating.
- No person shall climb the drill mast without the use of ANSI-approved fall protection (approved belts, lanyards and a fall protection slide rail) or portable ladder which meets the requirements of OSHA standards.

5.4 Noise Exposure

The use of the drilling rig will generate noise levels that will require the use of hearing protection in the immediate vicinity. Appropriate earmuffs or earplugs (i.e., with an NRR greater than 25 dB) should be worn to prevent overexposure. The general rule of thumb is that if you have to raise your voice to be understood by someone who is standing 3 to 5 feet away

from you, the noise levels are likely to be above 85 dB and therefore require the use of hearing protection.

5.5 Back Safety

Using the proper techniques to lift and move heavy pieces of equipment, such as drums of investigation-derived wastes or sample coolers, is important to reduce the potential for back injury. The following precautions should be implemented when lifting or moving heavy objects.

- Use mechanical devices to move objects, such as drums of investigation derived wastes or generators, that are too heavy to be moved manually
- If mechanical devices are not available, ask another person to assist you.
- Bend at the knees, not the waist. Let your legs do the lifting.
- Do not twist while lifting
- Bring the load as close to you as possible before lifting
- Be sure the path you are taking while carrying a heavy object is free of obstructions and slip, trip and fall hazards

5.6 Cold Stress

Types of Cold Stress

Cold injury is classified as either localized, as in frostbite, frostnip or chilblain; or generalized, as in hypothermia. The main factors contributing to cold injury are exposure to humidity and high winds, contact with wetness and inadequate clothing.

The likelihood of developing frostbite occurs when the face or extremities are exposed to a cold wind in addition to cold temperatures. The freezing point of the skin is about 30° F. The fluids around the cells of the body tissue freeze, causing the skin to turn white. This freezing is due to exposure to extremely low temperatures. As wind velocity increases, heat loss is greater and frostbite will occur more rapidly.

Symptoms of Cold Stress

The first symptom of frostbite is usually an uncomfortable sensation of coldness, followed by numbness. There may be a tingling, stinging or aching feeling in the effected area. The most vulnerable parts of the body are the nose, cheeks, ears, fingers and toes.

Symptoms of hypothermia, a condition of abnormally low body temperature, include *uncontrollable shivering and sensations of cold. The heartbeat slows and may become irregular, the pulse weakens and the blood pressure changes.* Pain in the extremities and severe shivering can be the first warning of dangerous exposure to cold.

Maximum severe shivering develops when the body temperature has fallen to 95° F. This must be taken as a sign of danger and exposure to cold must be immediately terminated. Productive physical and mental work is limited when severe shivering occurs.

Methods to Prevent Cold Stress

When the ambient temperature, or a wind chill equivalent, falls to below 40° F (American Conference of Governmental Industrial Hygienists recommendation), site personnel who must remain outdoors should wear insulated coveralls, insulated boot liners, hard hat helmet liners and insulated hand protection. Wool mittens are more efficient insulators than gloves. Keeping the head covered is very important, since 40% of body heat can be lost when the head is exposed. If it is not necessary to wear a hard hat, a wool knit cap provides the best head protection. A face mask may also be worn.

Persons should dress in several layers rather than one single heavy outer garment. The outer piece of clothing should ideally be wind and water proof. Clothing made of thin cotton fabric or synthetic fabrics such as polypropylene is ideal since it helps to evaporate sweat. Polypropylene is best at wicking away moisture while still retaining its insulating properties. Loosely fitting clothing also aids in sweat evaporation. Denim is not a good protective fabric. It is loosely woven which allows moisture to penetrate. Socks with a high wool content are best. If two pairs of socks are worn, the inner sock should be smaller and made of cotton, polypropylene or a similiar type of synthetic material that wicks away moisture. If clothing becomes wet, it should be taken off immediately and a dry set of clothing put on.

If wind conditions become severe, it may become necessary to shield the work area temporarily. The SSO and the PM will determine if this type of action is necessary. Heated break trailers or a designated area that is heated should be available if work is performed continuously in the cold at temperatures, or equivalent wind chill temperatures, of 20° F.

Dehydration occurs in the cold environment and may increase the susceptibility of the worker to cold injury due to significant change in blood flow to the extremities. Drink plenty of fluids, but limit the intake of caffeine.

5.7 Sediment Sampling

Sediments are being collected from wetland areas and drainage swales that are relatively dry. No wading or boating is required.

5.8 Electrical Hazards

If using portable tools that are electrically powered, follow the safety precautions listed below:

- Check to see that electrical outlets used to supply power during field operations is of the three wire grounding type.
- Extension cords used for field operations should be of the three wire grounding type and designed for hard or extra-hard usage. This type of cord uses insulated wires within an inner insulated sleeve and will be marked S, ST, STO, SJ, SJO or SJTO.
- NEVER remove the ground plug blade to accommodate ungrounded outlets.
- Do not use extension cords as a substitute for fixed or permanent wiring. Do not run extension cords through openings in walls, ceilings or floors.
- Protect the cord from becoming damaged if the cord is run through doorways, windows or across pinch points.
- Examine extension and equipment cords and plugs prior to each use. Damaged cords with frayed insulation or exposed wiring and damaged plugs with missing ground blades MUST BE REMOVED from service immediately.
- All portable or temporary wiring which is used outdoors or in other potentially wet or damp locations must be connected to a circuit which is protected by a ground fault circuit interrupter (GFCI). GFCI's are available as permanently installed outlets, as plug-in adapters and as extension cord outlet boxes. DO NOT CONTINUE TO USE A PIECE OF EQUIPMENT OR EXTENSION CORD WHICH CAUSES A GFCI TO TRIP.

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- When working in flammable atmospheres, be sure that the electrical equipment being used is approved for use in Class I, Division I atmospheres.
 - Do not touch a victim who is still in contact with current. Separate the victim from the source using a dry, nonmetallic item such as a broom stick or cardboard box. Be sure your hands are dry and you are standing on a dry surface. Turn off the main electrical power switch and then begin rescue efforts.

6. Air Monitoring

6.1 Direct Reading Instruments

A photoionization detector (PID), such as a ThermoElectron Organic Vapor Monitor (OVM) equipped with a 10.0 ev, 10.2 ev or 10.6 ev lamp, will be used to screen the work area for volatile organic vapors during bedrock well installation. As a precaution, if the PID indicates sustained (15 minute) breathing zone vapor concentrations in excess of 25 units or more, respiratory protection, as described in Section 7.2 of this document, will be donned.

6.2 Personal Air Sampling

Personal air sampling will not be conducted by ENSR during the activities covered by this HASP.

6.3 Calibration and Recordkeeping

Equipment used by ENSR will be calibrated in accordance with the quality assurance plan and ENSR's standard operating procedures. A log of PID readings will be kept in the field notebook. Daily calibration information will also be recorded in the field notebook.

7. Personal Protective Equipment

Personal protective equipment (PPE) will be worn during these activities to prevent on-site personnel from being injured by the safety hazards posed by the site and/or the activities being performed. In addition, chemical protective clothing will be worn to prevent direct dermal contact with the site's chemical contaminants. The following table describes the PPE and chemical protective clothing to be worn for general site activities and for certain specific tasks.

7.1 Chemical Protective Clothing

PPE Item	Task 1	Task 2	Task 3
Hard Hat	✓		
Steel Toed Safety Shoes	✓		
Safety Glasses with Sideshields	✓	✓	✓
Leather gloves	✓		
Inner PVC/Outer Nitrile Gloves		✓	✓
Hearing Protection	✓		

Task 1 – Bedrock Well Installation

Task 2 – Well Gauging/Groundwater Sampling

Task 3 – Surface Soil/Sediment Sampling

7.2 Respiratory Protection

Although not likely, respiratory protection as described below will be required if worker breathing zone PID concentrations are sustained (15 minutes) above the action limit.

Task	Action Limit	Respiratory Protection
Installation of bedrock monitoring wells	25 units above background on the PID	Half mask respirator with organic vapor cartridges

Respiratory protection should also be donned if odors become objectionable at any time or if respiratory tract irritation is noticed.

All employees who are expected to don respiratory protection must have successfully passed a qualitative or quantitative fit-test within the past year for the brand, model and size respirator they plan to don during the proposed activities.

7.3 Other Protective Equipment

The following additional safety items should be available at the site:

- Portable, hand-held eyewash bottles
- First aid kit

8. Site Control

To prevent both exposure of unprotected personnel and migration of contamination due to tracking by personnel or equipment, work areas along with personal protective equipment requirements will be clearly identified.

8.1 Designation of Zones

ENSR designates work areas or zones as suggested in the "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," NIOSH/OSHA/USCG/EPA, November, 1985. They recommend the areas surrounding each of the work areas to be divided into three zones:

- Exclusion or "hot" Zone
- Contamination Reduction Zone (CRZ)
- Support Zone

8.1.1 Exclusion Zone

The exclusion zone will include the area that immediately surrounds the drilling activities. Exclusion zones are not required for non-intrusive sampling activities. This zone should be sufficiently large to protect unprotected personnel from contact with vapors or dusts that may arise from these operations as well as the physical hazards associated with the operation of heavy equipment. As a minimum, the exclusion zone should include the area scribed by the shadow of the mast of the drilling rig. Each exclusion zone will be demarcated by traffic cones or hazard tape. All personnel entering the exclusion zone must be trained in accordance with the requirements defined in Section 9.2 of this HASP and must wear the prescribed level of personal protective equipment.

8.1.2 Contamination Reduction Zone

The decontamination zone will be established adjacent to the exclusion zone. Personnel will remove contaminated gloves and other disposable items in this area and place them in a plastic bag until they can be properly disposed of.

8.1.3 Support Zone

At this site the support zone will include the area outside of the exclusion zone.

8.2 Safety Practices

The following measures are designed to augment the specific health and safety guidelines provided in this plan.

- The "buddy system" will be used at all times by all field personnel. No one is to perform *field work alone*. *Standby team member must be intimately familiar with the procedures* for initiating an emergency response.
- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited in the immediate work area and the decontamination zone.
- Smoking is prohibited in all work areas. Matches and lighters are not allowed in these areas.
- Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking or any other activities.
- Beards or other facial hair that interfere with respirator fit are prohibited.
- The use of alcohol or illicit drugs is prohibited during the conduct of field operations.
- All equipment must be decontaminated or properly discarded before leaving the site in accordance with the project work plan.

9. Decontamination

9.1 Personal Decontamination

Proper decontamination is required of all personnel before leaving the site. Decontamination will occur within the contamination reduction zone. Disposable PPE will be removed in the decontamination zone and placed in lined garbage bags.

If worn, respirators will be cleaned after each use with respirator wipe pads and will be stored in plastic bags after cleaning.

Regardless of the type of decontamination system required, a container of potable water and liquid soap should be made available so employees can wash their hands and face before leaving the site for lunch or for the day.

10. Medical Monitoring and Training Requirements

10.1 Medical Monitoring

All personnel performing activities covered by this HASP must be active participants in a medical monitoring program that complies with 29 CFR 1910.120(f). Each individual must have completed an annual surveillance examination and/or an initial baseline examination within the last year prior to performing any work on the site covered by this HASP.

10.2 Health and Safety Training

All personnel performing activities covered by this HASP must have completed the appropriate training requirements specified in 29 CFR 1910.120(e). Each individual must have completed an annual 8-hour refresher training course and/or initial 40-hour training course within the last year prior to performing any work on the sites covered by this HASP. Also, on-site managers and supervisors directly responsible for supervising individuals engaged in hazardous waste operations must have completed the specified 8-hour managers training course.

10.2.1 Pre-Entry Briefing

The SSO will conduct a pre-entry briefing before site activities begin. HASP receipt and acceptance sheets will be collected at this meeting. Short safety refresher meetings will be conducted, as needed, throughout the duration of the project. Attendance of the pre-entry meeting is mandatory and will be documented by the ENSR SSO. An attendance form is presented in Attachment B.

11. Emergency Response

OSHA defines emergency response as any "response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance." According to ENSR policy, ENSR personnel shall not participate in any emergency response where there are potential safety or health hazards (i.e., fire, explosion, or chemical exposure). ENSR response actions will be limited to evacuation and medical/first aid as described within this section below. As such this section is written to comply with the requirements of 29 CFR 1910.38 (a).

The basic elements of an emergency evacuation plan include:

- employee training,
- alarm systems,
- escape routes,
- escape procedures,
- critical operations or equipment,
- rescue and medical duty assignments,
- designation of responsible parties,
- emergency reporting procedures and
- methods to account for all employees after evacuation.

11.1 Employee Training

Employees must be instructed in the site-specific aspects of emergency evacuation . On-site refresher or update training is required anytime escape routes or procedures are modified or personnel assignments are changed.

11.2 Alarm Systems/Emergency Signals

An emergency communication system must be in effect at all sites. The most simple and effective emergency communication system in many situations will be direct verbal communications. Each site must be assessed at the time of initial site activity and periodically as the work progresses. Verbal communications must be supplemented anytime voices can not be clearly perceived above ambient noise levels (i.e., noise from heavy equipment; drilling rigs, backhoes, etc.) and anytime a clear line-of-sight can not be easily maintained amongst all ENSR personnel because of distance, terrain or other obstructions.

Verbal communications will be adequate to warn employees of hazards associated with the immediate work area. No telephone service is available at the site so field teams must be equipped with cellular phones. If two field teams are working in different areas of the site, the field teams should be able to communicate with each other.

11.3 Escape Routes and Procedures

The escape route from the site will be via Enterprise Drive.

11.4 Rescue and Medical Duty Assignments

The phone numbers of the police and fire departments, ambulance service, local hospital, and ENSR representatives are provided in the emergency reference sheet. This sheet will be posted in the site vehicle.

In the event an injury or illness requires more than first aid treatment, the SSO will accompany the injured person to the medical facility and will remain with the person until release or admittance is determined. The escort will relay all appropriate medical information to the on-site project manager and the RHSM.

If the injured employee can be moved from the accident area, he or she will be brought to the CRZ where their PPE will be removed. If the person is suffering from a back or neck injury the person will not be moved and the requirements for decontamination do not apply. The SSO must familiarize the responding emergency personnel about the nature of the site and the injury. If the responder feels that the PPE can be cut away from the injured persons body, this will be done on-site. If this not feasible, decontamination will be performed after the injured person has been stabilized.

11.5 Designation of Responsible Parties

The SSO is responsible for initiating emergency response. In the event the SSO can not fulfill this duty, the alternate SSO will take charge. All personnel on site are responsible for knowing the escape route from the site and where to assemble after evacuation.

11.6 Employee Accounting Method

The SSO is responsible for identifying all ENSR personnel on-site at all times. On small, short duration jobs this can be done informally as long as accurate accounting is possible. On all other sites a formal log-in and log-out procedure must be implemented.

11.7 Accident Reporting and Investigation

Any incident (other than minor first aid treatment) resulting in injury, illness or property damage requires an accident investigation and report. The investigation should be conducted as soon as emergency conditions are under control. The purpose of the investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided. An ENSR accident investigation form is presented in Attachment C of this HASP. The injured ENSR employee's supervisor and the RHSM should be notified immediately of the injury. If a subcontractor employee is injured, they are required to notify the ENSR SSO. Once the incident is under control, the subcontractor will submit a copy of their company's accident investigation report to the ENSR SSO.

EMERGENCY REFERENCES

Ambulance: 911
Fire: 911
Police: 911
Medical Services: 914-331-3131

Kingston Hospital
369 Broadway
Kingston, NY

Directions to Hospital: Follow Route 9W to the ramp for Delaware Avenue. Turn right onto Delaware Ave. Bear right onto Broadway. Hospital is about 4 miles from the site.

On Site Telephone: Phones must be brought to the site

Underground Utility Location Service: 1-800- 962-7962

ENSR Project Representatives:

ENSR/ACTON, MA	978-635-9500
-Kathleen Harvey (RHSM)	x 3325
ENSR/LANGHORNE, PA	215-757-4900
-Ron Carper (PM)	
ENSR/PISCATAWAY, NJ	732-457-0500
-James Capasso (Site Manager)	

Attachment A

Health and Safety Plan Receipt and Acceptance Form

Health and Safety Plan Receipt and Acceptance Form

Preliminary Soil, Sediment and Groundwater Investigation

at

Southwestern Parcel

Ulster Township, New York

I have received a copy of the Health and Safety Plan prepared for the above-referenced site and activities. I have read and understood its contents and I agree that I will abide by its requirements.

Name (Print) _____

Signature _____ Date: _____

Representing (Print) _____
Company Name

Attachment B

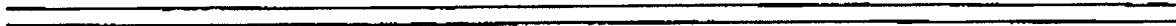
Health and Safety Plan Pre-Entry Briefing Attendance Form

Health and Safety Plan Pre-Entry Briefing Attendance Form
 Preliminary Soil, Sediment and Groundwater Investigation
 at
 Southwestern Parcel
 Ulster Township, New York

Briefing Conducted By: _____

Date Performed: _____

Printed Name	Signature	Representing



Attachment C

Supervisor's Accident Investigation Report Form

SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

Injured Employee _____ Job Title _____

Home Office _____ Division/Department _____

Date/Time of Accident _____

Location of Accident _____

Witnesses to the Accident _____

Injury Incurred? _____ Nature of Injury _____

Engaged in What Task When Injured? _____

Will Lost Time Occur? _____ How Long? _____ Date Lost Time Began _____

Were Other Persons Involved/Injured? _____

How Did the Accident Occur? _____

What Could Be Done to Prevent Recurrence of the Accident? _____

What Actions Have You Taken Thus Far to Prevent Recurrence? _____

Supervisor's Signature _____ Title _____ Date _____

Reviewer's Signature _____ Title _____ Date _____

Note: If the space provided on this form is insufficient, provide additional information on a separate page and attach. The completed accident investigation report must be submitted to the Regional Health and Safety Manager within two days of the occurrence of the accident.

APPENDIX B





Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-1

Sheet 1 of 3

Equipment: Air Rotary

Sampling Method: N/A

Depth of Well: 130 feet

Well Elevation: 98.83 R (TOC)

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/11/00

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/12/00

Depth (ft)	Classification of Material	Details
1	0' - 0.5' black coarse gravel	0.5' diameter steel casing
2		
3		
4		
5	0.5' - 10' brown fine to medium sand	
6		
7		
8		
9		
10		
11		
12		
13		
14		
15	10' - 20' brown medium to coarse sand	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32	20' - 45' gray clay	
33		
34		
35		
36		
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41		
42		
43		
44		



Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-1

Sheet 2 of 3

Equipment: Air Rotary

Sampling Method: N/A

Depth of Well: 130 feet

Well Elevation: 98.83 ft (TOC)

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/11/00

Drilling Contractor: Nothnagls Drilling

Drillers: Neal and Dean

Date Finished: 1/12/00

Depth (ft)	Classification of Material	Details
46	46' - 61' gray clay	0.5' diameter steel casing to 61.7'
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62	61' - 90' gray shale and siltstone	open hole
63		
64		
65		
66		
67		
68		
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70		
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Project Number: 2523-001
Client: Besicorp
Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log
Well Number BMW-1
Sheet 3 of 3
Equipment: Air Rotary
Sampling Method: N/A
Depth of Well: 130 feet
Well Elevation: 98.83 ft (TOC)

Project Manager: Ron Carper Logged By: Valerie Stoltzfus Date Started: 1/11/00
Drilling Contractor: Nothnagle Drilling Drillers: Neal and Dean Date Finished: 1/12/00

Depth (ft)	Classification of Material	Details
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101		
102		
103		
104		
105		
106		
107		
108		
109		
110	91' - 130' gray shale and siltstone	
111		open hole
112		
113		
114		
115		
116		
117		
118		
119		
120		
121		
122		
123		
124		
125		
126		
127		
128		
129		
130		



Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-2

Sheet 1 of 3

Equipment: Air Rotary

Sampling Method: N/A

Depth of Well: 130 feet

Well Elevation: 100.85 ft (TOC)

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/12/00

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/13/00

Depth (ft)	Classification of Material	Details
1	0' - 0.5' brown loam	
2		
3		
4		
5		
6		
7		
8		
9	0.5' - 20' brown fine to coarse sand	
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21	20' - 45' brown clay	0.5' diameter steel casing
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		



Project Number: 2523-001
Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-2

Sheet 2 of 3

Equipment: Air Rotary

Sampling Method: N/A

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/12/00

Depth of Well: 130 feet

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/13/00

Well Elevation : 100.85 ft (TOC)

Depth (ft)	Classification of Material	Details
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90	46' - 90' brown clay	0.5' diameter steel casing



Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-2

Sheet 3 of 3

Equipment: Air Rotary

Sampling Method: N/A

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/12/00

Depth of Well: 130 feet

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/13/00

Well Elevation: 100.85 ft (TOC)

Depth (ft)	Classification of Material	Details
91	90' - 92' brown clay	0.5' diameter steel casing to 98'
92		
93		
94		
95		
96		
97	92' - 100' gray weathered shale	
98		
99		
100		
101	100' - 130' gray shale and siltstone	open hole
102		
103		
104		
105		
106		
107		
108		
109		
110		
111		
112		
113		
114		
115		
116		
117		
118		
119		
120		
121		
122		
123		
124		
125		
126		
127		
128		
129		
130		



Project Number: 2523-001

Client: Basicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-3

Sheet 1 of 3

Equipment: Air Rotary

Sampling Method: N/A

Depth of Well: 130 feet

Well Elevation: 100.28 ft (TOC)

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/13/00

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/14/00

Depth (ft)	Classification of Material	Details
1	0' - 0.5' brown loam	0.5' diameter steel casing
2		
3		
4		
5		
6		
7		
8		
9		
10	0.5' - 20' brown fine to coarse sand	
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32	20' - 45' gray clay	
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		



Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-3

Sheet 2 of 3

Equipment: Air Rotary

Sampling Method: N/A

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/13/00

Depth of Well: 130 feet

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/14/00

Well Elevation: 100.28 ft (TOC)

Depth (ft)	Classification of Material	Details
46	46' - 67.5' gray clay	0.5' diameter steel casing to 67.5'
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68	67.5' - 90' gray shale and siltstone	open hole
69		
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		



Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster Township, NY

Monitoring Well Construction Log

Well Number BMW-3

Sheet 3 of 3

Equipment: Air Rotary

Sampling Method: N/A

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/13/00

Depth of Well: 130 feet

Drilling Contractor: Nothnagle Drilling

Drillers: Neal and Dean

Date Finished: 1/14/00

Well Elevation: 100.28 ft (TOC)

Depth (ft)	Classification of Material	Details
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101		
102		
103		
104		
105		
106		
107		
108		
109	91' - 130' gray shale and siltstone	open hole
110		
111		
112		
113		
114		
115		
116		
117		
118		
119		
120		
121		
122		
123		
124		
125		
126		
127		
128		
129		
130		



APPENDIX C





Project Number: 2523-001

Client: Besicorp

Site: Empire State Newsprint
Ulster County, NY

Soil Boring Log

Boring Number GT-1

Sheet 1 of 1

Equipment: Geoprobe

Sampling Method 4' Macrocore

Depth of Boring: 16.0 feet

Water Level: ~10 feet

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/13/00

Drilling Contractor: Maxim

Driller: Rudy Vicira

Date Finished: 1/13/00

Depth (ft)	% Recovery	Moisture	Color (Munsell System)	Classification of Material (Unified System)
1	79	moist	dark yellowish brown (10YR 4/4)	0.1' organic clay loam; fibrous texture; roots, grass, leaves (fragments); moist (PT)
		moist	dark yellowish brown (10YR 4/4)	0.9' silty clay loam; moist (CL)
2	79	dry	light yellowish brown (10YR 6/4)	1.5' clay, grading into silty clay; firm and dry (CL-ML)
3		moist	very dark grayish brown (10YR 3/2)	0.7' gravelly sand; medium to coarse; poorly graded; loose, running sands; moist (SP)
4	77	moist	very dark grayish brown (10YR 3/2)	1.4' gravelly sand; medium to coarse; coarsening downward; poorly graded; loose, running sands; moist (SP)
5				
6				
7	77	moist	dark yellowish brown (10YR 4/6)	0.8' silty clay; moist (CL)
8		moist to wet	dark gray (10YR 4/1)	0.8' clay; high plasticity; moist to saturated fat clay (CH)
9	88	moist	very dark grayish brown (10YR 3/2)	1.5' silty sand; fine to coarse; fairly well graded; moist (SW)
10		moist to wet	brown (5YR 5/2)	2.0' clay; high plasticity; varved; moist to saturated fat clay (CH)
11			dark gray (10YR 4/1) laminar	
12	100	moist to wet	brown (5YR 5/2) dark gray (10YR 4/1) laminar	4.0' clay; high plasticity; varved; moist to saturated fat clay (CH)
13				
14				
15				
16				

24' - 28' interval: no recovery

28' - 32' interval: no recovery



Project Number: 2523-001
Client: Besicorp

Site: Empire State Newsprint
Ulster County, NY

Soil Boring Log

Boring Number GT-2
Sheet 1 of 2

Equipment: Geoprobe
Sampling Method: 4' Macrocore

Depth of Boring: 52.0 feet
Water Level: ~10 feet

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/12/00

Drilling Contractor: Maxim

Driller: Rudy Vieira

Date Finished: 1/12/00

Depth (ft)	% Recovery	Moisture	Color (Munsell System)	Classification of Material (Unified System)
1	31	moist	light olive gray (5Y 6/2)	0.5' organic silty clay loam; fibrous texture; roots, grass, leaves (fragments); moist (PT-CL)
		moist	grayish brown (2.5Y 5/2)	0.5' silty sand; medium to coarse; poorly graded; moist (SM)
		moist	grayish brown (2.5Y 5/2)	0.25' gravelly sand; coarse to very coarse; poorly graded; loose, running sands; moist (SP)
2	75			
3				
4				
5		moist	grayish brown (2.5Y 5/2)	0.25' gravelly sand; coarse to very coarse; poorly graded; loose, running sands; moist (SP)
6	moist	dark grayish brown (2.5Y 4/2)	0.8' sand; medium to coarse; poorly graded; loose, running sands; moist (SP)	
7	moist	dark grayish brown (2.5Y 4/2)	2.1' gravelly sand; coarse to very coarse; poorly graded; loose, running sands; moist (SP)	
8				
9	4	wet	dark grayish brown (2.5Y 4/2)	0.15' sand; medium to coarse; poorly graded; loose, running sands; wet (SP)
10				
11				
12				
13	88	moist to wet	brown (7.5YR 5/2)	3.5' clay; high plasticity; moist to saturated fat clay (CH)
14				
15				
16				
17	50	wet	brown (7.5YR 5/2)	2.0' clay; high plasticity; wet to saturated fat clay (CH)
18				
19				
20				
21	42	wet	dark gray (7.5 YR 4/0)	1.7' clay; high plasticity; wet to saturated fat clay (CH)
22				
23				
24				
25	0			
26				
27				
28				



Project Number: 2523-001
Client: Besicorp

Site: Empire State Newsprint
Ulster County, NY

Soil Boring Log

Boring Number: GT-2

Sheet: 2 of 2

Equipment: Geoprobe

Sampling Method: 4' Macrocore

Depth of Boring: 52.0 feet

Water Level: ~10 feet

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/12/00

Drilling Contractor: Maxim

Driller: Rudy Vieira

Date Finished: 1/12/00

Depth (ft)	% Recovery	Moisture	Color (Munsell System)	Classification of Material (Unified System)
29	79	wet	dark gray (7.5 YR 4/0)	3.2' clay; high plasticity; wet to saturated fat clay (CH)
30				
31				
32				
33	100	wet	dark gray (7.5 YR 4/0)	1.5' clay; high plasticity; wet to saturated fat clay (CH)
34		moist	dark gray (7.5 YR 4/0)	
35				
36				
37	100	wet	dark gray (7.5 YR 4/0)	0.4' sandy clay; poorly graded; some fine to medium sand; wet (CL)
		wet	dark gray (7.5 YR 4/0)	0.2' sandy clay; poorly graded; some medium to coarse sand, small percentage of gravel; wet (CL)
		wet	dark gray (7.5 YR 4/0)	1.4' clay; high plasticity; wet to saturated fat clay (CH)
38		wet	dark gray (7.5 YR 4/0) with ~0.04' lens reddish brown (5YR 5/3)	0.5' clay; high plasticity; wet (CH)
39				
40		wet	dark gray (7.5 YR 4/0)	0.8' clay; high plasticity; wet to saturated fat clay (CH)
	moist	dark gray (7.5 YR 4/0)	0.7' clay; moderate plasticity; dense; firm and moist (CL)	
41	100	wet	dark gray (7.5 YR 4/0)	3.0' clay; high plasticity; wet (CH)
42				
43				
44		wet	dark gray (7.5 YR 4/0)	
45	100	wet	dark gray (7.5 YR 4/0)	1.0' silty sand; very fine to fine sand grading into clayey silt; wet (SM-ML)
46		wet	dark gray (7.5 YR 4/0)	2.5' clay; high plasticity; wet (CH)
47				
48		wet	dark gray (7.5 YR 4/0)	0.5' silty sand; very fine to fine; poorly graded; wet (SM)
	wet	dark gray (7.5 YR 4/0)	1.0' sand; medium to coarse; poorly graded; wet (SP)	
49	100	wet	dark gray (7.5 YR 4/0)	0.5' gravelly sand; medium to coarse; poorly graded; wet (SP)
		wet	black (2.5Y 2/0)	0.3' gravelly sand; very coarse; poorly graded; wet (SP)
50		wet	dark gray (7.5 YR 4/0)	0.5' silty gravel; poorly graded gravel-sand-silt mixture; wet (GM)
51		wet	dark gray (7.5 YR 4/0)	1.7' gravelly sand; very coarse; poorly graded; wet (SP)
52				

52' - 56' interval: no recovery



Project Number: 2523-001

Client: Basicorp

Site: Empire State Newspaper
Ulster County, NY

Soil Boring Log

Boring Number GT-3

Sheet 1 of 2

Equipment: Geoprobe

Sampling Method: 4' Macrocore

Depth of Boring: 61.0 feet

Water Level: ~10 feet

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/17/00

Drilling Contractor: Maxim

Driller: Rudy Vicira

Date Finished: 1/17/00

Depth (ft)	% Recovery	Moisture	Color (Munsell System)	Classification of Material (Unified System)
1	75	dry	very dark grayish brown (10YR 3/2)	1.2' silty loam; roots; firm and dry (ML)
2		dry	light yellowish brown (2.5Y 6/4)	0.5' silty clay loam; firm and dry (CL)
3		dry	light yellowish brown (2.5Y 6/4)	0.4' silty loam; firm and dry (ML)
4		dry	dark grayish brown (10YR 4/2)	0.9' sand; fine to medium; poorly graded; dry (SP)
5	69	dry	dark grayish brown (10YR 4/2)	0.4' silty sand; very fine to fine; poorly graded; dry (SM)
6		dry	dark grayish brown (10YR 4/2)	0.5' sand; medium to coarse; poorly graded; dry (SP)
7		dry to moist	dark grayish brown (10YR 4/2)	1.8' gravelly sand; medium to very coarse; poorly graded; loose, running sands; dry to moist (SP)
8	18			
9		wet		0.8' sand; medium to coarse; poorly graded; wet (SP)
10				
11				
12	88	moist	dark brown (7.5YR 4/2) olive (5Y 4/3) laminae	0.2' clay; high plasticity; varved; moist (CH)
13		wet	dark brown (7.5YR 4/2) dark gray (10YR 4/1) laminae	2.8' clay; high plasticity; varved; moist to saturated fat clay (CH)
14		moist	dark brown (7.5YR 4/2) dark gray (10YR 4/1) laminae	0.5' clay; high plasticity; varved; moist (CH)
15				
16		skipped interval		
17				
18				
19	0			
20		skipped interval		
21				
22				
23				
24				
25				
26				
27	skipped interval			
28				
29				
30				



Project Number: 2523-001
Client: Besicorp

Site: Empire State Newsprint
Ulster County, NY

Soil Boring Log

Boring Number GT-3

Sheet 2 of 2

Equipment: Geoprobe
Sampling Method: 2' and 4' Macrocore

Depth of Boring: 61.0 feet

Water Level: ~10 feet

Project Manager: Ron Carper

Logged By: Valerie Stoltzfus

Date Started: 1/17/00

Drilling Contractor: Maxim

Driller: Rudy Vicua

Date Finished: 1/17/00

Depth (ft)	% Recovery	Moisture	Color (Munsell System)	Classification of Material (Unified System)
31 32	80	wet	dark gray (10YR 4/1) with ~0.03' lens reddish brown (5YR 5/3)	1.6' clay; high plasticity; wet (CH)
33 34		skipped interval		
35 36		skipped interval		
37 38		skipped interval		
39 40	83	wet	dark brown (7.5YR 4/2) gray (10YR 5/1) laminae	1.7' clay; high plasticity; varved; wet to saturated fat clay (CH)
41 42 43 44		skipped interval		
45	94	wet	dark brown (7.5YR 4/2) gray (10YR 5/1) laminae	1.0' clay; high plasticity; varved; wet; grading into silty clay (CH-CL)
46		wet	gray (10YR 5/1)	2.3' silty clay; low to medium plasticity; wet (CL)
47				
48	50	wet	dark gray (10YR 4/1)	0.4' clayey sand; very fine to fine; wet (SC)
49		wet	dark gray (10YR 4/1)	2.0' clayey sand; very fine to fine; wet (SC)
50 51 52				
53 54 55 56	100	wet	dark gray (10YR 4/1)	4.0' clayey sand; very fine to fine; wet (SC) with ~0.2' clay lenses at 54.5' and 55.7' (CH)
57 58 59 60	2	wet	dark gray (10YR 4/1)	0.1' sand; very fine to fine; poorly graded; wet (SP)
61	17	wet	dark gray (10YR 4/1)	0.2' clay; high plasticity; saturated fat clay

Bedrock refusal at 61'.



APPENDIX D





ONE RESEARCH CIRCLE WAVEPLY, NY 14892-1582
 TELEPHONE (607) 665-3500 FAX (607) 665-4082

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-2

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-240S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 00:00 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. No.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/l	0.01	20-JAN-00	EPA 335.3	00-013-1
Aluminum	2.46	mg/l	0.075	25-JAN-00	EPA 6010	99-227-05
Antimony	U	mg/l	0.050	25-JAN-00	EPA 6010	99-227-05
Arsenic	0.003	mg/l	0.002	20-JAN-00	EPA 7062	97-198-44
Barium	0.057	mg/l	0.016	25-JAN-00	EPA 6010	99-227-05
Beryllium	U	mg/l	0.002	25-JAN-00	EPA 6010	99-227-05
Cadmium	U	mg/l	0.0050	25-JAN-00	EPA 6010	99-227-05
Calcium	75.6	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Chromium	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Cobalt	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Copper	U	mg/l	0.017	25-JAN-00	EPA 6010	99-227-05
Iron	11.7	mg/l	0.040	25-JAN-00	EPA 6010	99-227-05
Lead	0.004	mg/l	0.002	26-JAN-00	EPA 7421	98-195-15
Magnesium	11.1	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Manganese	3.21	mg/l	0.005	25-JAN-00	EPA 6010	99-227-05
Mercury	U	mg/l	0.0002	18-JAN-00	EPA 7470	98-126-63
Nickel	U	mg/l	0.012	25-JAN-00	EPA 6010	99-227-05
Potassium	8.45	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Selenium	U	mg/l	0.002	21-JAN-00	EPA 7742	96-080-67
Silver	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Sodium	89.3	mg/l	0.200	25-JAN-00	EPA 6010	99-227-05

Page 1

NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by:

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."

Jan 26 2000 16:13 P.07



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3300 FAX (607) 565-4083

DATE 26-JAN-2000

LAB SAMPLE ID L44872-2

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-240S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 00:00 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Thallium	U	mg/l	0.001	26-JAN-00	EPA 7841	98-202-8
Vanadium	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Zinc	0.023	mg/l	0.020	25-JAN-00	EPA 6010	99-227-05
EPA 8260						
Chloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Vinyl chloride	U	ug/l	2	19-JAN-00	EPA 8260	99-215-0663
Chloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Bromomethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,1-Dichloroethene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Acetone	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0663
Carbon disulfide	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Methylene chloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
trans-1,2-Dichloroethene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,1-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
cis-1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0663
Chloroform	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,1,1-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Carbon tetrachloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Benzene	U	ug/l	0.7	19-JAN-00	EPA 8260	99-215-0663
1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Trichloroethene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,2-Dichloropropane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Bromodichloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
cis-1,3-Dichloropropene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Methyl isobutyl ketone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0663
Toluene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
trans-1,3-Dichloropropene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,1,2-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Tetrachloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
2-Hexanone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0663
Dibromochloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Chlorobenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Ethylbenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
p-Xylene/m-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
o-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Styrene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663

Page 2

QC *Re* NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: *John P. Keat*

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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"Our family, caring about your analytical needs... Since 1863."

80 P 16:14 Jan 26 2000



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1582
 TELEPHONE (607) 565-3500 FAX (607) 565-4085

DATE 26-JAN-2000

LAB SAMPLE ID L44872-2

ENBR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-240S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 00:00 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Bromoform	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
1,1,2,2-Tetrachloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0663
Library Search Compounds:	Results	Units	Qual	Retention Time		
Surrogate Recovery:						
Dibromofluoromethane	98	X				99-215-0663
Toluene-d8	98	X				99-215-0663
4-Bromofluorobenzene	99	X				99-215-0663
EPA 8270						
Bis(2-chloroethylether)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Phenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2-Chlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
1,3-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
1,4-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
1,2-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Bis(2-chloroisopropylether)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2-Methylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Hexachloroethane	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
N-Nitrosodi-N-propylamine	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
3-Methylphenol/4-Methylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Nitrobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Isophorone	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2-Nitrophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4-Dibethylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Bis(2-chloroethoxymethane)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4-Dichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
1,2,4-Trichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Naphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Chloroaniline	U	ug/l	11	18-JAN-00	EPA 8270	98-051-10097
Hexachlorobutadiene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Chloro-3-methylphenol	U	ug/l	11	18-JAN-00	EPA 8270	98-051-10097
2-Methylnaphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Hexachlorocyclopentadiene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4,6-Trichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4,5-Trichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2-Chloronaphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097

QC *[Signature]* NY 10262 NJ 73188 PA 88180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1632
TELEPHONE (607) 565-3500 FAX (607) 565-4088

DATE 26-JAN-2000

LAB SAMPLE ID L44872-2

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-240S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 00:00 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Dimethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Acenaphthylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,6-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
3-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
Acenaphthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4-Dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
Dibenzofuran	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
2,4-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Nitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
Diethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Fluorene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Chlorophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
2-Methyl-4,6-dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
N-Nitrosodiphenylamine	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
4-Bromophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Hexachlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Pentachlorophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10097
Phenanthrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Carbazole	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Di-n-butyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Butylbenzyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Benzo(a)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
3,3-Dichlorobenzidine	U	ug/l	11	18-JAN-00	EPA 8270	98-051-10097
Chrysene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Di-2-ethylhexyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Di-n-octyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Benzo(b)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Benzo(k)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Benzo(a)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Indeno(1,2,3-cd)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Dibenzo(a,h)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097
Benzo(g,h,i)perylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10097

Extraction Information:

18-JAN-00

99-211-1

QC *BT* NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = Nons Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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"Our family, caring about your analytical needs... Since 1883."

Jan 26 2000 16:15 P.10



ONE RESEARCH CIRCLE WAVERLY, NY 14692-1532
TELEPHONE (607) 565-8600 FAX (607) 565-4083

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-2

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-2405
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 00:00 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
PHONE	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Library Search Compounds:	Results	Units	Qual	Retention Time		
Unknown	5	ug/l	J	9.9		
Unknown	61	ug/l	JB	12.66		
Surrogate Recovery:						
Terphenyl-d14	68	X				98-051-10097
2-Fluorophenol	39	X				98-051-10097
Phenol-d5	29	X				98-051-10097
2,4,6-Tribromophenol	70	X				98-051-10097
Nitrobenzene-d5	68	X				98-051-10097
2-Fluorobiphenyl	69	X				98-051-10097

Page 5

QC NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY: NO or U = None Detected < = less than ug/L. = micrograms per liter (equivalent to parts per billion)
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"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WAVEHLY, NY 13282-1002
TELEPHONE (607) 565-3500 FAX (607) 565-3083

x 37

DATE 20-JAN-2000

LAB SAMPLE ID L44711-1

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	MW-241S
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 10:25 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
DU NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/l	0.01	19-JAN-00	EPA 335.3	99-003-72
Aluminum	42.1	mg/l	0.075	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/l	0.050	19-JAN-00	EPA 6010	99-227-02
Barium	0.144	mg/l	0.016	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/l	0.002	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/l	0.0050	19-JAN-00	EPA 6010	99-227-02
Calcium	84.6	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Chromium	0.055	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Cobalt	0.025	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Copper	0.069	mg/l	0.017	19-JAN-00	EPA 6010	99-227-02
Iron	57.7	mg/l	0.040	19-JAN-00	EPA 6010	99-227-02
Lead	0.11	mg/l	0.010		EPA 7421	
Magnesium	16.8	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Manganese	1.68	mg/l	0.005	19-JAN-00	EPA 6010	99-227-02
Nickel	0.071	mg/l	0.012	19-JAN-00	EPA 6010	99-227-02
Potassium	11.5	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Sodium	78.5	mg/l	0.200	19-JAN-00	EPA 6010	99-227-02
Thallium	U	mg/l	0.001	19-JAN-00	EPA 7861	98-202-6

Page 1

QC NY 10252 NJ 73186 PA 68180 EPA NY 00033

Approved by:

Lab Director

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Jan 20 2000 17:02 P.02



ONE RESEARCH CIRCLE WAVERLY, NY 10997-1102
TELEPHONE (807) 566-3500 FAX (807) 566-1083

DATE 20-JAN-2000

LAB SAMPLE ID : L44711-1

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE
ORIGIN
DESCRIPTION
SAMPLE D ON
DATE RECEIVED
P.O. NO.

BESICORP KINGSTON
MW-241S
GRAB
11-JAN-00 10:25 by CLIENT
12-JAN-00 10:05
N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Vanadium	0.064	ng/l	0.010	19-JAN-00	EPA 6010	99-227-02
Zinc	0.153	ng/l	0.020	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Vinyl chloride	U	ug/l	2	12-JAN-00	EPA 8260	99-215-0553
Chloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Bromoethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Acetone	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0553
Carbon disulfide	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Methylene chloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
trans-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
cis-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0553
Chloroform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,1,1-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Carbon tetrachloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Benzene	U	ug/l	0.7	12-JAN-00	EPA 8260	99-215-0553
1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,2-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Bromochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
cis-1,3-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Methyl isobutyl ketone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0553
Toluene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
trans-1,3-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,1,2-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
2-Naphthol	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0553
Dibromochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Chlorobenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Ethylbenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
p-Xylene/m-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
o-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Styrene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
Bromoform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553
1,1,2,2-Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0553

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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"Our family, caring about your analytical needs... Since 1953."



ONE RESEARCH CIRCLE WAVERLY, NY 10992-1002
 TELEPHONE (607) 565-3500 FAX (607) 565-1983

LAB SAMPLE ID L44711-1

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	MW-241S
DESCRIPTION	GRAB
SAMPLE DATE	11-JAN-00 10:25 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
REMARKS	N/A

Analysis performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compound	Results	Units	Qual	Retention Time
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Surrogate Recovery:				
Dibromofluoromethane	99		X	99-215-0553
Toluene-d8	98		X	99-215-0553
4-Bromofluorobenzene	101		X	99-215-0553

EPA 8270

Compound	Result	Units	Qual	Retention Time	Date Analyzed	Method	Notebook Reference
Bis(2-chloroethyl)ether	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Phenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2-Chlorophenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
1,3-Dichlorobenzene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
1,4-Dichlorobenzene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
1,2-Dichlorobenzene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Bis(2-chloroisopropyl)ether	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2-Methylphenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Hexachloroethane	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
N-Nitrosodimethylamine	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
3-Methylphenol/4-Methylphenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Nitrobenzene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Isophthalic acid	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2-Nitrophenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2,4-Dimethylphenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Bis(2-chloroethoxy)methane	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2,4-Dichlorophenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
1,2,4-Trichlorobenzene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Naphthalene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
4-Chloroaniline	U	ug/l	12		13-JAN-00	EPA 8270	98-051-10063
Hexachlorocyclopentadiene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
4-Chloro-3-methylphenol	U	ug/l	12		13-JAN-00	EPA 8270	98-051-10063
2-Methylnaphthalene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Hexachlorocyclopentadiene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2,4,6-Trichlorophenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2,4,5-Trichlorophenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2-Chloro-3-methylphenol	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
2-Nitroaniline	U	ug/l	23		13-JAN-00	EPA 8270	98-051-10063
Dimethyl phthalate	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063
Acenaphthylene	U	ug/l	6		13-JAN-00	EPA 8270	98-051-10063

QC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

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"Our family cares about your analytical needs... Since 1963."

Jan 20 2000 17:07 P.04



ONE RESEARCH CIRCLE WAVERLY, NY 10992-1002
 TELEPHONE (607) 565-3500 FAX (607) 565-1052

DATE 20-JAN-2000

LAB SAMPLE ID L44711-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	MW-241S
DESCRIPTION	GRAB
SAMPLE DATE	11-JAN-00 10:25 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PII NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
1,6-Dinitrotoluene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
1-Nitroethane	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
1,4-Dinitrobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
1,4-Dinitrophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
1-Benzotriazole	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
2,4-Dinitrotoluene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
4-Nitrophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
Dioctyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Fluorene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
4-Chlorophenylphenylether	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
4-Nitroaniline	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
2-Methyl-4,6-dinitrophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
N-Nitrosodiphenylamine	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
4-Bromophenylphenylether	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Hexachlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Pentachlorophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10063
Phenanthrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Carbazole	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Di-n-butyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Fluoranthene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Butylbenzyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Benzo(a)anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
3,3-Dichlorobenzidine	U	ug/l	12	13-JAN-00	EPA 8270	98-051-10063
Chrysene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Bis-2-ethylhexyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Di-n-octyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Benzo(b)fluoranthene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Benzo(k)fluoranthene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Benzo(e)pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Indeno(1,2,3-cd)pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Dibenz(a,h)anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063
Benzo(g,h,i)perylene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10063

Extraction Information:

13-JAN-00

99-137-142

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by:

Lao Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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ONE RESEARCH CIRCLE WAVEBURY, NY 11987-1042
 TELEPHONE (607) 665-3600 FAX (607) 665-1042

DATE 20-JAN-2000

LAB SAMPLE ID :L44711-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	MW-241S
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 10:25 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compound(s)	Results	Units	Qual	Retention Time		
Unknown	76	ug/l	J	12.61		
Surrogate Recovery:						
Terphenyl-214	64		X			
2-Fluorophenol	46		X			98-051-10063
Phenol-d5	31		X			98-051-10063
4,6-Tribromophenol	78		X			98-051-10063
nitrobenzene-d5	72		X			98-051-10063
2-Fluorobiphenyl	74		X			98-051-10063

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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Jan 20 2000 17:08 P.06



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
 TELEPHONE (807) 586-8500 FAX (807) 586-4088

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-3


ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-242S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 14:25 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
IPD NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/l	0.01	20-JAN-00	EPA 335.3	00-013-1
Aluminum	0.454	mg/l	0.075	25-JAN-00	EPA 6010	99-227-05
Antimony	U	mg/l	0.050	25-JAN-00	EPA 6010	99-227-05
Arsenic	U	mg/l	0.002	20-JAN-00	EPA 7062	97-198-44
Barium	U	mg/l	0.016	25-JAN-00	EPA 6010	99-227-05
Beryllium	U	mg/l	0.002	25-JAN-00	EPA 6010	99-227-05
Cadmium	U	mg/l	0.0030	25-JAN-00	EPA 6010	99-227-05
Celotium	91.4	mg/l	0.300	25-JAN-00	EPA 6010	99-227-05
Chromium	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Cobalt	0.01	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Copper	U	mg/l	0.017	25-JAN-00	EPA 6010	99-227-05
Iron	20.4	mg/l	0.040	25-JAN-00	EPA 6010	99-227-05
Lead	0.001	mg/l	0.001	24-JAN-00	EPA 7421	98-195-14
Magnesium	11.3	mg/l	0.300	25-JAN-00	EPA 6010	99-227-05
Manganese	2.3	mg/l	0.005	25-JAN-00	EPA 6010	99-227-05
Mercury	U	mg/l	0.0002	18-JAN-00	EPA 7470	98-126-63
Nickel	U	mg/l	0.012	25-JAN-00	EPA 6010	99-227-05
Potassium	6.72	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Selenium	U	mg/l	0.002	21-JAN-00	EPA 7742	96-080-67
Silver	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Sodium	62.2	mg/l	0.200	25-JAN-00	EPA 6010	99-227-05

Page 1

QC Are NY 10252 NJ 73186 PA 88180 EPA NY 00033

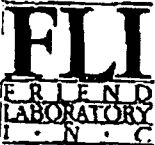
Approved by: 
 Lab Director

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P.12 Jan 26 2000 16:15



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
 TELEPHONE (607) 565-8500 FAX (607) 565-4063

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-3

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-242S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 14:25 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
PHONE	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Thallium	U	ug/l	0.001	24-JAN-00	EPA 7841	98-202-8
Vanadium	U	ug/l	0.010	25-JAN-00	EPA 6010	99-227-05
Zinc	U	ug/l	0.020	25-JAN-00	EPA 6010	99-227-05
EPA 8260						
Chloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Vinyl chloride	U	ug/l	2	19-JAN-00	EPA 8260	99-215-0664
Chloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Bromomethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,1-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Acetone	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0664
Carbon disulfide	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Methylene chloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
trans-1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,1-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
cis-1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0664
Chloroform	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,1,1-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Carbon tetrachloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Benzene	U	ug/l	0.7	19-JAN-00	EPA 8260	99-215-0664
1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,2-Dichloropropane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Bromodichloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
cis-1,3-Dichloropropane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Methyl isobutyl ketone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0664
Toluene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
trans-1,3-Dichloropropane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,1,2-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Tetrachloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
2-Hexanone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0664
Dibromochloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Chlorobenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Ethylbenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
p-Xylene/m-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
o-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Styrene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664

QC *Sty* NY 10262 NJ 73188 PA 88180 EPA NY 00033

Approved by: *John R. Hunt*
 Lab Director

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"Our family, caring about your analytical needs... Since 1983."



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1632
 TELEPHONE (807) 666-2600 FAX (807) 666-4063

DATE 26-JAN-2000

LAB SAMPLE ID L44872-3

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-2426
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 14:25 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Bromoform	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
1,1,2,2-Tetrachloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0664
Library Search Compounds:	Results	Units	Qual	Retention Time		

Surrogate Recovery:						
Dibromofluoroethane	99		X			99-215-0664
Toluene-d8	98		X			99-215-0664
4-Bromofluorobenzene	98		X			99-215-0664

EPA 8270

Bis(2-chloroethyl ether)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Phenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2-Chlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
1,3-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
1,4-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
1,2-Dichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Bis(2-chloroisopropyl ether)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2-Methylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Hexachloroethane	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
N-Nitrosodi-N-propylamine	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
3-Methylphenol/4-Methylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Nitrobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Isophorone	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2-Nitrophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4-Dimethylphenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Bis(2-chloroethoxymethane)	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4-Dichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
1,2,4-Trichlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Naphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Chloroaniline	U	ug/l	10	18-JAN-00	EPA 8270	98-051-10098
Hexachlorobutadiene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Chloro-3-methylphenol	U	ug/l	10	18-JAN-00	EPA 8270	98-051-10098
2-Methylnaphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Hexachlorocyclopentadiene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4,6-Trichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4,5-Trichlorophenol	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2-Chloronaphthalene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098

Page 3

QC *Na* NY 10262 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

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"Our family, caring about your analytical needs... Since 1963."

Jan 26 2000 16:16 P.14



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
 TELEPHONE (607) 565-3500 FAX (607) 565-4083

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-3

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-242S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 14:25 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
PHONE	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Dimethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Acenaphthylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,6-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
3-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
Acenaphthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4-Dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
Dibenzofuran	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
2,4-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Nitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
Diethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Fluorone	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Chlorophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
2-Methyl-4,6-dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
N-Nitrosodiphenylamine	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
4-Bromophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Hexachlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Pentachlorophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10098
Phenanthrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Carbazole	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Di-n-butyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Butylbenzyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Benzo(a)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
3,3-Dichlorobenzidine	U	ug/l	10	18-JAN-00	EPA 8270	98-051-10098
Chrysene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Bis-2-ethylhexyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Di-n-octyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Benzo(b)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Benzo(k)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Benzo(a)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Indeno(1,2,3-cd)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Dibenzo(a,h)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098
Benzo(g,h,i)perylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10098

Extraction Information:

18-JAN-00

99-211-1

QC *[Signature]* NY 10252 NJ 73168 PA 58180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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ONE RESEARCH CIRCLE WAVERLY, NY 14892-1632
TELEPHONE (807) 666-3500 FAX (807) 666-4082

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-3

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
LOCATION	MW-2428
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 14:25 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Library Search Compounds:	Results	Units	Qual	Retention Time		
Unknown	55	ug/l	J8	12.67		
Surrogate Recovery:						
Terphenyl-d14	68	X				98-051-10098
2-Fluorophenol	62	X				98-051-10098
Phenol-d5	29	X				98-051-10098
2,4,6-Tribromophenol	75	X				98-051-10098
Nitrobenzene-d5	60	X				98-051-10098
2-Fluorobiphenyl	61	X				98-051-10098

QC *[Signature]* NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
Lab Director

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ONE RESEARCH CIRCLE WAVERLY, NY 14892-1582
 TELEPHONE (807) 565-3600 FAX (807) 565-4088

DATE 26-JAN-2000

LAB SAMPLE ID L44872-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORGAN	MW-244S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 10:30 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/l	0.01	20-JAN-00	EPA 335.3	00-015-1
Aluminum	20.5	mg/l	0.075	25-JAN-00	EPA 6010	99-227-05
Antimony	U	mg/l	0.050	25-JAN-00	EPA 6010	99-227-05
Arsenic	0.029	mg/l	0.010	20-JAN-00	EPA 7062	97-198-44
Barium	0.072	mg/l	0.016	25-JAN-00	EPA 6010	99-227-05
Beryllium	U	mg/l	0.002	25-JAN-00	EPA 6010	99-227-05
Cadmium	U	mg/l	0.0050	25-JAN-00	EPA 6010	99-227-05
Calcium	76	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Chromium	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Cobalt	0.031	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Copper	0.037	mg/l	0.017	25-JAN-00	EPA 6010	99-227-05
Iron	42.4	mg/l	0.040	25-JAN-00	EPA 6010	99-227-05
Lead	0.02	mg/l	0.005	26-JAN-00	EPA 7421	98-195-13
Magnesium	12.9	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Manganese	2.69	mg/l	0.005	25-JAN-00	EPA 6010	99-227-05
Mercury	U	mg/l	0.0002	18-JAN-00	EPA 7470	98-126-63
Nickel	0.047	mg/l	0.012	25-JAN-00	EPA 6010	99-227-05
Potassium	9.8	mg/l	0.500	25-JAN-00	EPA 6010	99-227-05
Selenium	U	mg/l	0.002	21-JAN-00	EPA 7742	96-080-67
Silver	U	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Sodium	105	mg/l	0.200	25-JAN-00	EPA 6010	99-227-05

QC *[Signature]* NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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Jan 26 2000 15:11 P.02



ONE RESEARCH CIRCLE WAVERLY, NY 14892-1582
 TELEPHONE (607) 585-3500 FAX (607) 585-4083

DATE 26-JAN-2000

LAB SAMPLE ID :L44872-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-244S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 10:30 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
PTS. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Thallium	U	mg/l	0.001	26-JAN-00	EPA 7841	98-292-8
Vanadium	0.024	mg/l	0.010	25-JAN-00	EPA 6010	99-227-05
Zinc	0.108	mg/l	0.020	25-JAN-00	EPA 6010	99-227-05

EPA 8260

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Chloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Vinyl chloride	U	ug/l	2	19-JAN-00	EPA 8260	99-215-0662
Chloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Bromomethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
1,1-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Acetone	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0662
Carbon disulfide	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Methylene chloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
trans-1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
1,1-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
cis-1,2-Dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	19-JAN-00	EPA 8260	99-215-0662
Chloroform	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
1,1,1-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Carbon tetrachloride	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Benzene	U	ug/l	0.7	19-JAN-00	EPA 8260	99-215-0662
1,2-dichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Trichloroethene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
1,2-Dichloropropene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Bromodichloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
cis-1,3-Dichloropropene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Methyl isobutyl ketone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0662
Toluene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
trans-1,3-Dichloropropene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
1,1,2-Trichloroethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Tetrachloroethene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
2-Hexanone	U	ug/l	10	19-JAN-00	EPA 8260	99-215-0662
Dibromochloromethane	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Chlorobenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Ethylbenzene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
p-Xylene/m-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
o-Xylene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662
Styrene	U	ug/l	5	19-JAN-00	EPA 8260	99-215-0662

Page 2

QC *[Signature]* NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

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ONE RESEARCH CIRCLE WAVERLY, NY 14892-1632
 TELEPHONE (807) 565-3600 FAX (807) 565-4083

DATE 26-JAN-2000

LAB SAMPLE ID : L44872-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-244S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 10:30 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Bromoform	U	ug/L	5	19-JAN-00	EPA 8260	99-215-0662
1,1,2,2-Tetrachloroethane	U	ug/L	5	19-JAN-00	EPA 8260	99-215-0662
Library Search Compounds:						
	Results	Units	Qual	Retention Time		
Surrogate Recovery:						
Dibromofluoromethane	102		X			99-215-0662
Toluene-d8	97		X			99-215-0662
4-Bromofluorobenzene	100		X			99-215-0662
EPA 8270						
Bis(2-chloroethylether)	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Phenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2-Chlorophenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
1,3-Dichlorobenzene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
1,4-Dichlorobenzene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
1,2-Dichlorobenzene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Bis(2-chloroisopropylether)	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2-Methylphenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Hexachloroethane	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
N-Nitrosodi-N-propylamine	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
3-Methylphenol/4-Methylphenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Nitrobenzene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Isophorone	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2-Nitrophenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2,4-Dimethylphenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Bis(2-chloroethoxyethane)	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2,4-Dichlorophenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
1,2,4-Trichlorobenzene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Naphthalene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
4-Chloroaniline	U	ug/L	10	18-JAN-00	EPA 8270	98-051-10096
Hexachlorobutadiene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
4-Chloro-3-methylphenol	U	ug/L	10	18-JAN-00	EPA 8270	98-051-10096
2-Methylnaphthalene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
Hexachlorocyclopentadiene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2,4,6-Trichlorophenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2,4,5-Trichlorophenol	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2-Chloronaphthalene	U	ug/L	5	18-JAN-00	EPA 8270	98-051-10096
2-Nitroaniline	U	ug/L	21	18-JAN-00	EPA 8270	98-051-10096

QC *JS* NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: *John A. [Signature]*

Lab Director

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ONE RESEARCH CIRCLE WAVERLY, NY 14892-1652
 TELEPHONE (607) 665-8500 FAX (607) 665-4083

DATE 26-JAN-2000

LAB SAMPLE ID L44872-1

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-244S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 10:30 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
SHIP NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Dimethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Acenaphthylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
2,6-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
3-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
Acenaphthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
2,4-Dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
Dibenzofuran	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
2,4-Dinitrotoluene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
4-Nitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
Diethyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Fluorene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
4-Chlorophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
4-Nitroaniline	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
2-Methyl-4,6-dinitrophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
N-Nitrosodiphenylamine	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
4-Bromophenylphenylether	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Hexachlorobenzene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Pentachlorophenol	U	ug/l	21	18-JAN-00	EPA 8270	98-051-10096
Phenanthrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Carbazole	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Di-n-butyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Fluorene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Butylbenzyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Benzo(a)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
3,3-Dichlorobenzidine	U	ug/l	10	18-JAN-00	EPA 8270	98-051-10096
Chrysene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Bis-2-ethylhexyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Di-n-octyl phthalate	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Benzo(b)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Benzo(k)fluoranthene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Benzo(a)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Indeno(1,2,3-cd)pyrene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Dibenzo(a,h)anthracene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096
Benzo(g,h,i)perylene	U	ug/l	5	18-JAN-00	EPA 8270	98-051-10096

Extraction Information:

18-JAN-00

99-211-1

QC *[Signature]* NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

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ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (807) 665-3500 FAX (807) 665-4083

DATE 26-JAN-2000

LAB SAMPLE ID L44872-1

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP
ORIGIN	MW-244S
DESCRIPTION	GRAB
SAMPLED ON	13-JAN-00 10:30 by CLIENT
DATE RECEIVED	17-JAN-00 09:56
BY	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Library Search Compounds:	Results	Units	Qual	Retention Time		
Unknown	60	ug/l	J8	12.65		
Surrogate Recovery:						
Terphenyl-d14	63	X				98-051-10096
2-Fluorophenol	48	X				98-051-10096
Phenol-d5	33	X				98-051-10096
2,4,6-Tribromophenol	78	X				98-051-10096
Nitrobenzene-d5	65	X				98-051-10096
2-Fluorobiphenyl	66	X				98-051-10096

QC *[Signature]* NY 10262 NJ 73108 PA 88180 EPA NY 00033

Approved by: *[Signature]*
Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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ONE RESEARCH CIRCLE WAVERLY, NY 13282
TELEPHONE (607) 565-3500 FAX (607) 565-3083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-7

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE: BESICORP KINGSTON
LOCATION: MW-3
DESCRIPTION: GRAB
SAMPLED ON: 11-JAN-00 16:10 by CLIENT
DATE RECEIVED: 12-JAN-00 10:05
FOUR: N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide Total	U	mg/l	0.01	19-JAN-00	EPA 335.3	99-003-72
Aluminum	47.3	mg/l	0.075	19-JAN-00	EPA 6010	99-227-02
Antimony	0.068	mg/l	0.050	19-JAN-00	EPA 6010	99-227-02
Arsenic	0.817	mg/l	0.016	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/l	0.002	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/l	0.0050	19-JAN-00	EPA 6010	99-227-02
Chromium	0.917	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Cobalt	0.072	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Copper	0.149	mg/l	0.017	19-JAN-00	EPA 6010	99-227-02
	124	mg/l	0.040	19-JAN-00	EPA 6010	99-227-02
Lead	0.049	mg/l	0.010		EPA 7421	
Magnesium	43.9	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Manganese	6.48	mg/l	0.005	19-JAN-00	EPA 6010	99-227-02
Nickel	0.903	mg/l	0.012	19-JAN-00	EPA 6010	99-227-02
Potassium	9.14	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Sodium	7.36	mg/l	0.200	19-JAN-00	EPA 6010	99-227-02
Thallium	U	mg/l	0.001	19-JAN-00	EPA 7841	98-202-6
Zinc	0.084	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10282 NJ 73188 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of these four samples will be discarded after 14 days unless we are advised otherwise

"Our family, caring about your analytical needs... Since 1963."

Jan 20 2000 12:21 P.32



ONE RESEARCH CIRCLE WAVERLY, NY 12090
TELEPHONE (607) 565-8500 FAX (607) 565-1000

LAB SAMPLE ID : L44711-7

DATE 20-JAN-2000

ENR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	MW-3
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 16:10 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
FILE NO	N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Zinc	0.309	mg/l	0.020	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Vinyl chloride	U	ug/l	2	12-JAN-00	EPA 8260	99-215-0554
Chloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Bromoethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Acetone	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0554
Carbon disulfide	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Methylene chloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
trans-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
cis-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0554
Chloroform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,1,1-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Carbon tetrachloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Benzene	U	ug/l	0.7	12-JAN-00	EPA 8260	99-215-0554
1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,2-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Bromochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
cis-1,3-Dichloropropene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Methyl isobutyl ketone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0554
Toluene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
trans-1,3-Dichloropropene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,1,2-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
2-Hexanone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0554
Dimethylchloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Chlorobenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Ethylbenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
p-Xylene/m-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
o-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Styrene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
Bromoform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554
1,1,1,2-Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0554

Page 2

CC NY 10262 NJ 73188 PA 68160 EPA NY 00033

Approved by: *[Signature]*
Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the detection limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount paid for the analysis. Your samples will be discarded after 14 days unless we are advised otherwise.

"Our family caring about your analytical needs... Since 1963."

Jan 20 2000 17:21 P.33



ONE RESEARCH CIRCLE WAVERLY, NY 11993
 TELEPHONE (607) 665-8500 FAX (607) 665-1963

DATE 30-JAN-2000

LAB SAMPLE ID : L44711-7

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Bangor, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CLIENT	MW-3
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 16:10 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
INITIALS	N/A

Analyses Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compounds	Results	Units	Qual	Retention Time
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Surrogate Recovery:						
1,1-Dibromoethane	98	%	X			99-215-0554
Toluene	95	%	X			99-215-0554
4-Bromoanisole	101	%	X			99-215-0554

EPA 8270	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Bis(2-chloroethyl ether)	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Phenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2-Chlorophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,3-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,4-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,2-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Bis(2-chloroisopropyl ether)	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2-Methylphenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,3-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,4-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,2-Dichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4,6-Trichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4-Dinitrophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,6-Dinitrophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4-Dinitrophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Bis(2-chloroethoxy)ethane	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4-Dichlorophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1,2,4-Trichlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Naphthalene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
4-Chlorophthalene	U	ug/l	11	13-JAN-00	EPA 8270	98-051-10064
Hexachlorocyclopentadiene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
1-Chloro-2-methylphenol	U	ug/l	11	13-JAN-00	EPA 8270	98-051-10064
2-Methylphenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Hexachlorocyclopentadiene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4,6-Trichlorophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4,5-Trichlorophenol	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2-Chloronaphthalene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2-Nitroaniline	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
Dimethyl phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Acenaphthylene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064

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NY 10262 NJ 73168 PA 88180 EPA NY00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result calculated below the quantitative limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of the fee for the sample. The sample will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WAYVERLY, NY 13854-2202
TELEPHONE (607) 666-3500 FAX (607) 666-1081

LAB SAMPLE ID : L44711-7

DATE 20-JAN-2000

ENSR
Ron Carper
2005 Cabot Boulevard West
Banghorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CLIENT	MW-3
DESCRIPTION	GRAB
SAMPLE DATE	11-JAN-00 16:10 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
NO. IN	N/A

Analyst Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
2,6-Dinitrotoluene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
3-Nitroaniline	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
Acenaphthene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4-Dinitrophenol	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
Dibenzofuran	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
2,4-Dinitrotoluene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
4-Nitrophenol	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
Diethyl phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Fluorene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
4-Chlorophenyl phenylether	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
4-Nitroaniline	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
2-Methyl-4,6-dinitrophenol	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
N-Nitrosodiphenylamine	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
4-Bromophenyl phenylether	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Hexachlorobenzene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Pentachlorophenol	U	ug/l	21	13-JAN-00	EPA 8270	98-051-10064
Phenanthrene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Anthracene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Carbazole	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Di-n-butyl phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Fluoranthene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Pyrene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Butylbenzyl phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Benz(a)anthracene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
3,3'-Dichlorobenzidine	U	ug/l	11	13-JAN-00	EPA 8270	98-051-10064
Chrysene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Bis(2-ethylhexyl) phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Di-n-octyl phthalate	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Benzo(b)fluoranthene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Benzo(k)fluoranthene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Benzo(a)pyrene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Indeno(1,2,3-cd)pyrene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Dibenz(a,h)anthracene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064
Benzo(g,h,i)perylene	U	ug/l	5	13-JAN-00	EPA 8270	98-051-10064

Extraction Information:

13-JAN-00 99-137-142

QO NY 10262 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount paid for the analysis. Your samples will be discarded after 14 days unless we are advised otherwise.

Jan 20 2000 17:22 P.35
...family caring about your analytical needs... Since 1963...



ONE RESEARCH CIRCLE WAVERLY, NY 11982
 TELEPHONE (607) 565-3500 FAX (607) 565-3501

DATE 20-JAN-2000

LAB SAMPLE ID : L44711-7

ENSR
 Ron Carper
 2805 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	MW-3
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 16:10 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis Performed	Result	Units	Detection Limit	Data Analyzed	Method	Notebook Reference
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Library Search Compounds:

Library Search Compounds:	Results	Units	Qual	Retention Time	
Unknown	57	ug/l	J	12.62	
Surrogate Recovery:					
Terphenyl-d14	47		X		98-051-10064
2-Fluorophenol	36		X		98-051-10064
Phenol-d5	23		X		98-051-10064
2,4,6-Trifluorophenol	59		X		98-051-10064
Nitrobenzene-d5	59		X		98-051-10064
2-Fluorobiphenyl	60		X		98-051-10064

Page 5

QC: NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per million)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the detection limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall we be liable for any damages or losses, including consequential damages, arising out of the use of this report. Our samples will be discarded after 14 days unless we are advised otherwise.

Jan 20 2000 17:23 P. 36 "Since 1963, we have been caring about your analytical needs."



ONE RESEARCH CIRCLE WAVERLY, NY 13080-1002
 TELEPHONE (607) 506-3500 FAX (607) 506-1003

LAB SAMPLE ID L44711-B

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Danforth, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	FIELD BLANK 1/11/00
DESCRIPTION	GRAB
SAMPLING ON	11-JAN-00 16:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PREP BY	N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/l	0.01	19-JAN-00	EPA 335.3	99-003-72
Aluminum	U	mg/l	0.075	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/l	0.050	19-JAN-00	EPA 6010	99-227-02
Barium	0.093	mg/l	0.016	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/l	0.002	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/l	0.0050	19-JAN-00	EPA 6010	99-227-02
Calcium	55.1	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Chromium	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Cobalt	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Copper	U	mg/l	0.017	19-JAN-00	EPA 6010	99-227-02
Iron	0.076	mg/l	0.040	19-JAN-00	EPA 6010	99-227-02
Lead	0.001	mg/l	0.001		EPA 7421	
Magnesium	10	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Manganese	0.017	mg/l	0.005	19-JAN-00	EPA 6010	99-227-02
Nickel	U	mg/l	0.012	19-JAN-00	EPA 6010	99-227-02
Potassium	1.36	mg/l	0.500	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Sodium	20.1	mg/l	0.200	19-JAN-00	EPA 6010	99-227-02
Thallium	U	mg/l	0.001	19-JAN-00	EPA 7841	98-202-6

Page 1

NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by:

John P. ...
 Lab Director

KEY: ND or U = None Detected < = less than ug/l = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 E = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Our samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WAVERLY, NY 11982
 TELEPHONE (607) 565-3500 FAX (607) 565-3505

LAB SAMPLE ID L44711-8

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SERVICE
 ORDER
 DESCRIPTION
 SAMPLE ID
 DATE RECEIVED
 PRIORITY

BESICORP KINGSTON
 FIELD BLANK 1/11/00
 GRAB
 11-JAN-00 16:35 by CLIENT
 12-JAN-00 10:05
 N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Lead	U	mg/l	0.010	19-JAN-00	EPA 6010	99-227-02
Zinc	0.026	mg/l	0.020	19-JAN-00	EPA 6010	99-227-02
EPA 8260s						
Chloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Vinyl chloride	U	ug/l	2	12-JAN-00	EPA 8260	99-215-0552
Chloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Bromoethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,1-Dichloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Acetone	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0552
Carbon disulfide	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Methylene chloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
trans-1,2-Dichloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
cis-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Methyl ethyl ketone (2-Butanone)	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0552
Chloroform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,1,1-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Carbon tetrachloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Benzene	U	ug/l	0.7	12-JAN-00	EPA 8260	99-215-0552
1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Trichloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,2-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Bromodichloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
cis-1,3-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Methyl isobutyl ketone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0552
Toluene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
trans-1,3-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,1,2-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
2-Hexanone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0552
Dibromochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Chlorobenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Ethylbenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
p-Xylene/m-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
o-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Styrene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
Bromoform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552
1,1,1,2-Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0552

QC NY 10252 NJ 79168 PA 68180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the detection limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of the fee for this analysis. All samples will be discarded after 14 days unless we are advised otherwise.

For more information about your analytical needs... Since 1963.
 Jan 20 2000 12:23 P.38



ONE RESEARCH CIRCLE WAVERLY, NY 11992-1002
 TELEPHONE (807) 565-8300 FAX (807) 565-1082

LAB SAMPLE ID : L44711-8

DATE 20-JAN-2000

INSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SERVICE
 CHARGE
 DESCRIPTION
 SAMPLE #
 DATE RECEIVED
 PID #

BESICORP KINGSTON
 FIELD BLANK 1/11/00
 GRAB
 11-JAN-00 16:35 by CLIENT
 12-JAN-00 10:05
 N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compounds:	Results	Units	Qual	Retention Time
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Surrogate Recovery:				
Bromofluoromethane	102	X		99-215-0552
Toluene	99	X		99-215-0552
p-Bromofluorobenzene	101	X		99-215-0552

EPA 8270:

Bis(2-chloroethylether)	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Phenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Chlorophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
1,3-Dichlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
1,4-Dichlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
1,2-Dichlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Bis(2-chloroisopropylether)	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Methylphenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Hexachlorocyclopentadiene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
N-Nitrosodimethylamine	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
3-Methylphenol/4-Methylphenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Nitrobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Isophthalene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Nitrophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2,4-Dimethylphenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Bis(2-chloroethoxymethane)	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2,4-Dichlorophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
1,2,4-Trichlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Naphthalene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
4-Chlorobenzilene	U	ug/l	11	13-JAN-00	EPA 8270	98-051-10065
Hexachlorobutadiene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
4-Chloro-3-methylphenol	U	ug/l	11	13-JAN-00	EPA 8270	98-051-10065
2-Methyl-naphthalene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Hexachlorocyclopentadiene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2,4,6-Trichlorophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2,4,5-Trichlorophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Chloronaphthalene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Nitrobenziline	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Dimethyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Acenaphthylene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065

Page 3

QC NY 10262 NJ 73168 PA 88180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) ug/kg micrograms per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. No responsibility shall be assumed for results obtained if samples are not properly prepared or if the samples are not representative of the material being analyzed. Your samples will be discarded after 14 days unless we are advised otherwise.

Jan 20 2000 17:24 P.39 Since 1963... speak about your analytical needs...



ONE RESEARCH CIRCLE
TELEPHONE (607) 685-3500

WAVERLY, NY 14892
FAX (607) 685-3500

DATE 20-JAN-2000

LAB SAMPLE ID L44711-8

SMALL SAMPLE
ORIGIN
DESCRIPTION
SAMPLED ON
DATE RECEIVED
P. 10

BESICORP KINGSTON
FIELD BLANK 1/11/00
GRAB
11-JAN-00 16:35 by CLIENT
12-JAN-00 10:05
N/A

ENBR
Ron Carper
2025 Cabot Boulevard West
Langhorne, PA 19047

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
6-Dinitrotoluene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Nitrobenzidine	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
2-Naphthylamine	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
4-Dinitrophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Ibenzofuran	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
4-Dinitrotoluene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Nitrophenol	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Methyl phthalate	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Fluorene	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Chlorobenzyl phenylether	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Nitrobenzidine	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
2-Methyl-5-dinitrophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
4-Nitroanisole	U	ug/l	4	13-JAN-00	EPA 8270	98-051-10065
4-Bromobenzyl phenylether	U	ug/l	23	13-JAN-00	EPA 8270	98-051-10065
Hexachlorobenzene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Pentachlorophenol	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Phenanthrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(a)pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(b)fluoranthene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(k)fluoranthene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(a)anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(e)pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Indeno(1,2,3-cd)pyrene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Dibenz(a,h)anthracene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
Benzo(g,h,i)perylene	U	ug/l	6	13-JAN-00	EPA 8270	98-051-10065
				13-JAN-00		99-137-142

Extraction Information:

Approved by: *[Signature]*
Lab Director

QC NY 10262 NJ 73188 PA 68180 EPA NY 00033

KEY: ND or U = None Detected
mg/L = milligrams per liter (equivalent to parts per million)
B = analyte was detected in the method or trip blank

ug/L
mg/kg
micrograms per liter (equivalent to parts per million)
milligrams per kilogram (equivalent to parts per million)
result estimated below the quantitative limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability be extended beyond the scope of the contract.
Your sample will be discarded after 14 days unless we are advised otherwise.

Jan 20 2000 12:24 P.40
"Our family caring about your analytical needs... Since 1963"



ONE RESEARCH CIRCLE WAVERLY NY 10997
 TELEPHONE (607) 685-3500 FAX (607) 685-3500

DATE 20-JAN-2000

LAB SAMPLE ID L44711-8

EMSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CLIENT	FIELD BLANK 1/11/00
DESCRIPTION	GRAB
SAMPLE TIME	11-JAN-00 16:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compound:

Library Search Compound	Results	Units	Qual	Retention Time	
Unknown	66	ug/l	J	12.62	
Surrogate Recovery:					
Tarphenyl-d14	64	X			98-051-10065
2-Fluorophenol	41	X			98-051-10065
Phenol	29	X			98-051-10065
2,4,6-Trichlorophenol	73	X			98-051-10065
Nitrobenzene	65	X			98-051-10065
2-Fluorobiphenyl	64	X			98-051-10065

QC NY 10252 NJ 73188 PA 68160 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of fees paid for this analysis. Your samples will be discarded after 14 days unless we are advised otherwise.

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Jan 20 2000 17:25 P. 41



ONE RESEARCH CIRCLE WAVERLY, NY 11993-1002
 TELEPHONE (807) 666-8500 FAX (807) 666-1083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-9

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	FRIEND LABORATORY, INC.
PHONE	95-045-93-20
DESCRIPTION	TRIP BLANK
SAMPLED ON	11-JAN-00 00:00 by FLI/BB
DATE RECEIVED	12-JAN-00 10:05
INITIALS	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
EPA 8260						
Chloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Vinyl chloride	U	ug/l	2	12-JAN-00	EPA 8260	99-215-0551
Chloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Bromoethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,1-Dichloroethene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Acetone	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0551
Carbon disulfide	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Methylene chloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
trans-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,1-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
cis-1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Methyl ethyl ketone (2-butanone)	U	ug/l	25	12-JAN-00	EPA 8260	99-215-0551
Chloroform	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,1,1-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Carbon tetrachloride	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Benzene	U	ug/l	0.7	12-JAN-00	EPA 8260	99-215-0551
1,2-Dichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,2-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
monochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
cis-1,3-Dichloropropane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Methyl isobutyl ketone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0551
Toluene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
trans-1,3-Dichloropropene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,1,2-Trichloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
2-Hexanone	U	ug/l	10	12-JAN-00	EPA 8260	99-215-0551
Dibromochloromethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Chlorobenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Ethylbenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
p-Xylene/m-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
o-Xylene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Styrene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
Bromobenzene	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551
1,1,2,2-Tetrachloroethane	U	ug/l	5	12-JAN-00	EPA 8260	99-215-0551

QC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by:
 Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of the fee for samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963"



ONE RESEARCH CIRCLE WAVEBURY, NY 11993
 TELEPHONE (607) 568-3500 FAX (607) 568-3983

DATE 20-JAN-2000

LAB SAMPLE ID L44711-9

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	FRIEND LABORATORY, INC.
PHONE	95-045-93-20
DESCRIPTION	TRIP BLANK
SAMPLED ON	11-JAN-00 00:00 by FLI/BB
DATE RECEIVED	12-JAN-00 10:05
LAB NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
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Library Search Compounds	Results	Units	Qual	Retention Time	
Surrogate Recovery:					
Dibromofluoromethane	102	X			99-215-0551
Toluene-d8	98	X			99-215-0551
4-Bromofluorobenzene	103	X			99-215-0551

QC _____ NY 10262 NJ 73188 PA 88180 EPA NY 00033

Approved by: 

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantity limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount paid for the analysis. Your samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs. Since 1963."



ONE RESEARCH CIRCLE WAVERLY, NY 11987-1472
 TELEPHONE (607) 565-3500 FAX (607) 565-4083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-2

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Danforth, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	SED-1/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 12:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Amide, Total	U	mg/kg	0.689	14-JAN-00	EPA 335.3	99-003-71
Total Solids	69.2	%		13-JAN-00	CLP 3.0	97-070-247
Aluminum	8920	mg/kg	10.0	19-JAN-00	EPA 6010	99-227-02
Antimony	7.74	mg/kg	6.67	19-JAN-00	EPA 6010	99-227-02
Arsenic	U	mg/kg	16.0	19-JAN-00	EPA 6010	99-227-02
Barium	139	mg/kg	2.13	19-JAN-00	EPA 6010	99-227-02
Beryllium	0.335	mg/kg	0.267	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/kg	0.6670	19-JAN-00	EPA 6010	99-227-02
Calcium	36100	mg/kg	66.7	19-JAN-00	EPA 6010	99-227-02
Chromium	22.7	mg/kg	1.33	19-JAN-00	EPA 6010	99-227-02
Cobalt	8.99	mg/kg	1.33	19-JAN-00	EPA 6010	99-227-02
Copper	13.8	mg/kg	2.27	19-JAN-00	EPA 6010	99-227-02
Iron	16400	mg/kg	5.33	19-JAN-00	EPA 6010	99-227-02
Lead	41.1	mg/kg	5.87	19-JAN-00	EPA 6010	99-227-02
Magnesium	2870	mg/kg	66.7	19-JAN-00	EPA 6010	99-227-02
Manganese	4800	mg/kg	13.3	19-JAN-00	EPA 6010	99-227-02
Nickel	39.2	mg/kg	1.60	19-JAN-00	EPA 6010	99-227-02
Potassium	746	mg/kg	66.7	19-JAN-00	EPA 6010	99-227-02
Selenium	U	mg/kg	190	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/kg	1.33	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of the fee paid for this analysis. Your samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."
 Jan 20 2000 17:09 P.07



ONE RESEARCH CIRCLE WAVERLY, NY 11982-1002
 TELEPHONE (607) 565-3600 FAX (607) 565-1007

LAB SAMPLE ID L44711-2

DATE 20-JAN-2000

ES&R
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	SED-1/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 12:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Sodium	176	mg/kg	26.7	19-JAN-00	EPA 6010	99-227-02
Potassium	U	mg/kg	8.67	19-JAN-00	EPA 6010	99-227-02
Magnesium	18.1	mg/kg	1.33	19-JAN-00	EPA 6010	99-227-02
Zinc	427	mg/kg	2.67	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Vinyl chloride	U	ug/kg	3	18-JAN-00	EPA 8260	99-214-9623
Chloroethene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Bromoethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Acetone	U	ug/kg	36	18-JAN-00	EPA 8260	99-214-9623
Carbon disulfide	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Methylene chloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
trans-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
cis-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Methyl ethyl ketone (2-Butanone)	U	ug/kg	36	18-JAN-00	EPA 8260	99-214-9623
Chloroform	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,1,1-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Carbon tetrachloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Benzene	U	ug/kg	1	18-JAN-00	EPA 8260	99-214-9623
1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Trichloroethene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,2-Dichloropropane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Bromochloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
cis-1,3-Dichloropropane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Methyl isobutyl ketone	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9623
Toluene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
trans-1,3-Dichloropropane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,1,2-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Tetrahydrofuran	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
2-Hexanone	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9623
Dibromochloromethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Chlorobenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Ethylbenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
p-Xylene/m-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
o-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623

Page 2

QC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by:

Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) ug/kg = micrograms per kilogram (equivalent to parts per billion)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount of the fee for this report. Your samples will be discarded after 14 days unless we are advised otherwise.

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80 P Jan 20 2000 17:09



ONE RESEARCH CIRCLE WAVERLY, NY 14882-1412
 TELEPHONE (807) 565-3600 FAX (807) 565-1883

DATE 20-JAN-2000

LAB SAMPLE ID L144711-2

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
GROUP	SED-1/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 12:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Styrene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Bromofore	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
1,1,2,2-tetrachloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9623
Library Search Compounds:						
	Results	Units	Qual	Retention Time		
unknown	9	ug/kg	J	5.3		
unknown	18	ug/kg	J	20.79		
unknown	58	ug/kg	J	21.88		
Surrogate Recovery:						
Dibromofluoromethane	114		X			99-214-9623
Toluene-d8	114		X			99-214-9623
4-Bromofluorobenzene	140		X			99-214-9623

Analysis Comment: Dry weight basis. *Surrogate recovery out high. Internal standard 4 out low.

EPA 8082						
PCB 1015	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567
PCB 1221	U	ng/kg	0.27	18-JAN-00	EPA 8082	99-108-3567
PCB 1232	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567
PCB 1242	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567
PCB 1248	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567
PCB 1254	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567
PCB 1260	U	ng/kg	0.13	18-JAN-00	EPA 8082	99-108-3567

Extraction Information:

Surrogate Recovery:						
Dicobrochlorophenyl	108		X			99-108-3567

Analysis Comment: PCB results are calculated on a dry weight basis.

EPA 8270						
Bis(2-chloroethyl)ether	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Phenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2-Chlorophenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
1,3-Dichlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
1,4-Dichlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
1,2-Dichlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Bis(2-chloroisopropyl)ether	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2-Methylphenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074

QC NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY:	ND or U = None Detected	< = less than	ug/L	micrograms per liter (equivalent to parts per billion)
	mg/L = milligrams per liter (equivalent to parts per million)		mg/kg	milligrams per kilogram (equivalent to parts per million)
	B = analyte was detected in the method or trip blank		J	result estimated below the quantitation limit

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ONE RESEARCH CIRCLE WAVERLY, NY 11987-1502
 TELEPHONE (607) 506-3500 FAX (607) 506-1083

LAB SAMPLE ID L44711-2

DATE 20-JAN-2000

ESR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE
 CLIENT
 DESCRIPTION
 SAMPLE ID
 DATE RECEIVED
 P.O. NO.

BESICORP KINGSTON
 SED-1/0.0-0.5
 GRAB
 11-JAN-00 12:35 by CLIENT
 12-JAN-00 10:05
 N/A

Analysis performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Hexachlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
N-Nitrosodimethylamine	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
3-Methylphenol/4-Methylphenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Nitrobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Isophthalene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2-Nitrophenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4-Dimethylphenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Bis(2-chloroethoxymethane)	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4-Dichlorophenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
1,2,4-Trichlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Naphthalene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Chloroaniline	U	ug/kg	680	14-JAN-00	EPA 8270	98-051-10074
Hexachlorocyclopentadiene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Chloro-3-methylphenol	U	ug/kg	680	14-JAN-00	EPA 8270	98-051-10074
2-Methylnaphthalene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Hexachlorocyclopentadiene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4,6-Trichlorophenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4,5-Trichlorophenol	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2-Chloronaphthalene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
Dimethyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Acenaphthylene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,6-Dinitrotoluene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
3-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
Acenaphthene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4-Dinitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
Dibenzofuran	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
2,4-Dinitrotoluene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Nitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
Diethyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Fluorene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Chlorophenylphenylether	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
2-Methyl-6-tert-butylphenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
N-Nitrosodiphenylamine	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
4-Bromophenylphenylether	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Hexachlorobenzene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Pentachlorophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10074
Phenanthrene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Anthracene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Carbazole	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Di-n-butyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074

QO NY 10252 NJ 73186 PA 68180 EPA NY 00033

Approved by:

Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the quantitative limit

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 Your samples will be discarded after 14 days unless we are advised otherwise.

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Jan 20 2000 17:10 P.10



ONE RESEARCH CIRCLE WAVERLY, NY 13282-1003
 TELEPHONE (607) 565-3500 FAX (607) 565-3003

DATE 20-JAN-2000

LAB SAMPLE ID L44711-2

EMSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE REFERENCE	BESICORP KINGSTON
ORIGIN	SED-1/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 12:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Fluoranthene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Pyrene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Nitylbenzyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Benzo(a)anthracene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
1,3-Dichlorobenzidine	U	ug/kg	680	14-JAN-00	EPA 8270	98-051-10074
Chrysene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Bis-2-ethylhexyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Dib-n-octyl phthalate	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Benzo(b)fluoranthene	150 J	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Benzo(k)fluoranthene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Benzo(a)pyrene	76 J	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Indeno(1,2,3-cd)pyrene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Dibenzo(a,h)anthracene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074
Benzo(g,h,i)perylene	U	ug/kg	340	14-JAN-00	EPA 8270	98-051-10074

Extraction Information:

13-JAN-00 99-137-143

Library Search Compounds:	Results	Units	Qual	Retention Time
4-Hydroxy-2-Methyl-2-Pentanone	7600	ug/kg	J	7.23
Unknown	4000	ug/kg	J	12.6
Unknown	690	ug/kg	J	38.19
Unknown	320	ug/kg	J	38.79
Unknown	360	ug/kg	J	41.23

Surrogate Recovery:

Terphenyl-d14	82	X		98-051-10074
2-Fluorophenol	57	X		98-051-10074
Phenol-d5	62	X		98-051-10074
2,4,6-Trifluorophenol	78	X		98-051-10074
Nitrobenzene-d5	65	X		98-051-10074
2-Fluorobiphenyl	66	X		98-051-10074

Analysis Comments: Results Calculated on a dry weight basis.

QC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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All information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed that of the client. Our samples will be discarded after 14 days unless we are advised otherwise.

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ONE RESEARCH CIRCLE WAVERLY, NY 12155-1002
 TELEPHONE (507) 585-8500 FAX (507) 585-1002

DATE 20-JAN-2000

LAB SAMPLE ID L44711-6

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE
 USE/USE
 DESCRIPTION
 SAMPLE ID
 DATE RECEIVED
 ANALYST

BESICORP KINGSTON
 SED-2/0.0-0.5
 GRAB
 11-JAN-00 14:50 by CLIENT
 12-JAN-00 10:05
 N/A

Analyst performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide Total	U	mg/kg	0.63	19-JAN-00	EPA 335.3	99-003-72
Total Solids	71	%		13-JAN-00	CLP 3.0	97-070-247
Aluminum	5340	mg/kg	9.90	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/kg	6.60	19-JAN-00	EPA 6010	99-227-02
Arsenic	U	mg/kg	15.8	19-JAN-00	EPA 6010	99-227-02
Barium	41.6	mg/kg	2.11	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/kg	0.264	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/kg	0.6600	19-JAN-00	EPA 6010	99-227-02
Calcium	576	mg/kg	66.0	19-JAN-00	EPA 6010	99-227-02
Chromium	7.04	mg/kg	1.32	19-JAN-00	EPA 6010	99-227-02
Cobalt	3.87	mg/kg	1.32	19-JAN-00	EPA 6010	99-227-02
Copper	6.13	mg/kg	2.24	19-JAN-00	EPA 6010	99-227-02
Iron	10400	mg/kg	5.28	19-JAN-00	EPA 6010	99-227-02
Lead	11.8	mg/kg	5.81	19-JAN-00	EPA 6010	99-227-02
Magnesium	1930	mg/kg	66.0	19-JAN-00	EPA 6010	99-227-02
Manganese	1910	mg/kg	13.2	19-JAN-00	EPA 6010	99-227-02
Nickel	19.7	mg/kg	1.58	19-JAN-00	EPA 6010	99-227-02
Potassium	378	mg/kg	66.0	19-JAN-00	EPA 6010	99-227-02
Selenium	U	mg/kg	190	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/kg	1.32	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10262 NJ 73188 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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 B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Four samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."

Jan 20 2000 12:18 P.27



ONE RESEARCH CIRCLE WAWATON, NY 11995
 TELEPHONE (607) 565-3300 FAX (607) 565-3302

DATE 20-JAN-2000

LAB SAMPLE ID L44711-6

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CLIENT	SED-2/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:50 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PG. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Sodium	69	mg/kg	26.4	19-JAN-00	EPA 6010	99-227-02
Thallium	U	mg/kg	8.58	19-JAN-00	EPA 6010	99-227-02
Vanadium	7.8	mg/kg	1.32	19-JAN-00	EPA 6010	99-227-02
Zinc	37.4	mg/kg	2.64	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Vinyl Chloride	U	ug/kg	3	18-JAN-00	EPA 8260	99-214-9627
Chloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Bromoethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Acetone	U	ug/kg	35	18-JAN-00	EPA 8260	99-214-9627
Carbon disulfide	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Methylene chloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
trans-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
cis-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Methyl ethyl ketone (2-Butanone)	U	ug/kg	35	18-JAN-00	EPA 8260	99-214-9627
Chloroform	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,1,1-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Carbon tetrachloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Benzene	U	ug/kg	1	18-JAN-00	EPA 8260	99-214-9627
1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,2-Dichloropropane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Bromodichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
cis-1,3-Dichloropropene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Methyl isobutyl ketone	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9627
Toluene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
trans-1,3-Dichloropropene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,1,2-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Tetrachloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
2-Naphthol	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9627
Dibromochloromethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Chlorobenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Ethylbenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
p-Xylene/m-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
o-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627

Page 2

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per million)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J result estimated below the quantitation limit

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Our family, caring about your analytical needs... Since 1963.
 Jan 20 2000 12:17:19 p.28



ONE RESEARCH CIRCLE WAVEHOLY, NY 13850-1002
 TELEPHONE (607) 565-3500 FAX (607) 565-3083

LAB SAMPLE ID : L44711-6

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Banghorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	SED-2/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:50 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Styrene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
Bromoform	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627
1,1,2,2-Tetrachloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9627

Library Search Compound	Results	Units	Qual	Retention Time
Surrogate Recovery:				
Dibromofluoromethane	104	X		
Toluene-d8	98	X		
1-Bromofluorobenzene	116	X		

Analysis Comment: Results Calculated on a dry weight basis.

EPA 8082	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
PCB 1016	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571
PCB 1221	U	mg/kg	0.28	18-JAN-00	EPA 8082	99-108-3571
PCB 1232	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571
PCB 1242	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571
PCB 1246	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571
PCB 1254	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571
PCB 1260	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3571

Extraction Information:

Surrogate Recovery:						
Tetrachlorobiphenyl	150	X		12-JAN-00		99-154-152

Analysis Comment: PCB results are calculated on a dry weight basis.

EPA 8270	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
1,1-(2-chloroethyl)ether	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Phenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2-Chlorophenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1,3-Dichlorobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1,4-Dichlorobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2-Dichlorobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1,1-(2-chloroisopropyl)ether	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1-Methylphenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Tetrachloroethane	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Nitrosodimethylamine	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1-Methylphenol/4-Methylphenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071

NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by:

Lab Director

NY: ND or U = None-Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

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ONE RESEARCH CIRCLE WAVERLY, NY 10997-0002
TELEPHONE (607) 566-3500 FAX (607) 566-3500

DATE 20-JAN-2000

LAB SAMPLE ID L44711-6

ENBR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE: BESICORP KINGSTON
LOCATION: SED-2/0.0-0.5
DESCRIPTION: GRAB
SAMPLED ON: 11-JAN-00 14:50 by CLIENT
DATE RECEIVED: 12-JAN-00 10:05
P.O. NO.: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Nitrobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Isophorone	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2-Nitrophenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,4-Dimethylphenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Bis(2-chloroethoxy)methane	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,4-Dichlorophenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
1,2,4-Trichlorobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Naphthalene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Chloroaniline	U	ug/kg	690	14-JAN-00	EPA 8270	98-051-10071
Hexachlorobutadiene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Chloro-3-methylphenol	U	ug/kg	690	14-JAN-00	EPA 8270	98-051-10071
2-Methylnaphthalene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Hexachlorocyclopentadiene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,4,6-Trichlorophenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,4,5-Trichlorophenol	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2-Chloronaphthalene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
Dimethyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Aconaphthylene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,6-Dinitrotoluene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
3-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
Acenaphthene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
6-Dinitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
benzofuran	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
2,4-Dinitrotoluene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Nitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
Diethyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Fluorene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Chlorophenylphenyl ether	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
2-Nitro-4,6-dinitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
N-Nitrosodiphenylamine	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
4-Bromobiphenyl ether	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Hexachlorobenzene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Pentachlorophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10071
Phenanthrene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Anthracene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Carbazole	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Di-n-butyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Fluorethene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Pyrene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Butylbenzyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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ONE RESEARCH CIRCLE WAVERLY, NY 14897-1502
 TELEPHONE (607) 565-3500 FAX (607) 565-3501

DATE 20-JAN-2000

LAB SAMPLE ID : L44711-6

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Bangor, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	SED-2/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:50 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Benzo(a)anthracene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
3,3-Dibutylbenzidine	U	ug/kg	690	14-JAN-00	EPA 8270	98-051-10071
Chrysene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Bis-2-ethylhexyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Di-n-octyl phthalate	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Benzo(b)fluoranthene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Benzo(k)fluoranthene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Benzo(a)pyrene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Indeno(1,2,3-cd)pyrene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Dibenz(a,h)anthracene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071
Benzo(a,i)perylene	U	ug/kg	350	14-JAN-00	EPA 8270	98-051-10071

Extraction Information:

13-JAN-00 99-137-143

Library Search Compounds:	Results	Units	Qual	Retention Time
4-Hydroxy-4-Methyl-2-Pentanone	9800	ug/kg	J	7.25
Unknown	4700	ug/kg	J	12.59
Unknown	360	ug/kg	J	34.74

Surrogate Recovery:

Terphenyl-d14	80	%		98-051-10071
2-Fluorophenol	64	%		98-051-10071
Phenol-d5	68	%		98-051-10071
2,4-Dibromophenol	80	%		98-051-10071
Nitrobenzene-d5	72	%		98-051-10071
2-Fluorobiphenyl	75	%		98-051-10071

Analysis Comment: Results Calculated on a dry weight basis.

QD NY 10262 NJ 73168 PA 88180 EPA NY 00035

Approved by: *[Signature]*
 Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
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Jan 20 2000 17:20 P. 31
 ... caring about your analytical needs... Since 1963.



ONE RESEARCH CIRCLE WAVERLY, NY 11962-1512
TELEPHONE (607) 565-3500 FAX (607) 565-1083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-3

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE
ORIGIN
DESCRIPTION
SAMPLED ON
DATE RECEIVED
P. 01 03

BESICORP KINGSTON
SED-3/0.0-0.5
GRAB
11-JAN-00 14:55 by CLIENT
12-JAN-00 10:05
N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide, Total	U	mg/kg	0.483	19-JAN-00	EPA 335.3	99-003-72
Total Solids	69.4	%		13-JAN-00	CLP 3.0	97-070-247
Aluminum	7220	mg/kg	10.5	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/kg	7.01	19-JAN-00	EPA 6010	99-227-02
Arsenic	U	mg/kg	16.8	19-JAN-00	EPA 6010	99-227-02
Barium	37.5	mg/kg	2.24	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/kg	0.280	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/kg	0.7010	19-JAN-00	EPA 6010	99-227-02
Calcium	1050	mg/kg	70.1	19-JAN-00	EPA 6010	99-227-02
Chromium	8.83	mg/kg	1.40	19-JAN-00	EPA 6010	99-227-02
Cobalt	5.26	mg/kg	1.40	19-JAN-00	EPA 6010	99-227-02
Copper	12.5	mg/kg	2.38	19-JAN-00	EPA 6010	99-227-02
Iron	13900	mg/kg	5.60	19-JAN-00	EPA 6010	99-227-02
Lead	19.1	mg/kg	6.16	19-JAN-00	EPA 6010	99-227-02
Magnesium	2630	mg/kg	70.1	19-JAN-00	EPA 6010	99-227-02
Manganese	277	mg/kg	0.701	19-JAN-00	EPA 6010	99-227-02
Nickel	17.3	mg/kg	1.68	19-JAN-00	EPA 6010	99-227-02
Potassium	432	mg/kg	70.1	19-JAN-00	EPA 6010	99-227-02
Selenium	U	mg/kg	9.81	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/kg	1.40	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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P.12 Jan 20 2000 17:11



ONE RESEARCH CIRCLE WAVERLY, NY 11982-1102
 TELEPHONE (807) 665-3600 FAX (807) 665-1063

DATE 20-JAN-2000

LAB SAMPLE ID L44711-3

EMSR
 Ron Carper
 2805 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
OFFICE	SED-3/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:55 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Lead	62.8	mg/kg	28.0	19-JAN-00	EPA 6010	99-227-02
Mercury	U	mg/kg	9.11	19-JAN-00	EPA 6010	99-227-02
Manganese	10.5	mg/kg	1.40	19-JAN-00	EPA 6010	99-227-02
Cadmium	69.6	mg/kg	2.80	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Vinyl chloride	U	ug/kg	3	18-JAN-00	EPA 8260	99-214-9624
Chloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Bromochloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Acetone	U	ug/kg	35	18-JAN-00	EPA 8260	99-214-9624
Carbon disulfide	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Methylene chloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
trans-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,1-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
cis-1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Methyl ethyl ketone (2-Butanone)	U	ug/kg	35	18-JAN-00	EPA 8260	99-214-9624
Chloroform	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,1,1-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Carbon tetrachloride	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Benzene	U	ug/kg	1	18-JAN-00	EPA 8260	99-214-9624
1,2-Dichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Trichloroethene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,2-Dichloropropene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Bromochloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
cis-1,2-Dichloropropene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Methyl isobutyl ketone	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9624
Toluene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
trans-1,3-Dichloropropene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,1,2-Trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Tetrachloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
2-Hexanone	U	ug/kg	14	18-JAN-00	EPA 8260	99-214-9624
Dibromochloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Chlorobenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
Ethylbenzene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
p-Xylene/m-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
o-Xylene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624

Page 2

QC NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: *[Signature]*
 Lao Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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Jan 20 2000 17:12 P.13



ONE RESEARCH CIRCLE WAVERLY, NY 11995-0002
 TELEPHONE (807) 565-8600 FAX (807) 565-1000

DATE 20-JAN-2000

LAB SAMPLE ID L44711-3

ENSR
 Rep. Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	SED-3/0.0-0.5
DESCRIPTION	GRAB
SAMPLING ON	11-JAN-00 14:55 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
styrene	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
acrylonitrile	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624
1,2,2-trichloroethane	U	ug/kg	7	18-JAN-00	EPA 8260	99-214-9624

Library Search Compounds:	Results	Units	Qual	Retention Time
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Unknown	17	ug/kg	J	21.87
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Surrogate Recovery:	Results	Units	Qual	Retention Time	Notebook Reference
1-bromofluorobenzene	104	%			99-214-9624
toluene-d8	101	%			99-214-9624
1-bromofluorobenzene	121	%			99-214-9624

Analysis Comment: Results Calculated on a dry weight basis.

EPA 8082

CB 1016	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568
CB 1221	U	mg/kg	0.29	18-JAN-00	EPA 8082	99-108-3568
CB 1232	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568
CB 1242	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568
CB 1248	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568
CB 1254	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568
PCB 1260	U	mg/kg	0.14	18-JAN-00	EPA 8082	99-108-3568

Extraction Information:

12-JAN-00 99-154-152

Surrogate Recovery:	Results	Units	Qual	Retention Time	Notebook Reference
Decachlorobiphenyl	113	%			99-108-3568

Analysis Comment: PCB results are calculated on a dry weight basis.

EPA 8270

Bis(2-chloroethyl)ether	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Phenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2-Chlorophenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
1,3-Dichlorobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
1,4-Dichlorobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
1,2-Dichlorobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Bis(2-chloropropyl)ether	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2-Naphthol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Hexachloroethane	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
N-Nitrosodimethylpropylamine	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072

QC NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 B = analyte was detected in the method or trip blank J = result estimated below the quantitative limit

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ONE RESEARCH CIRCLE WAVERLY, NY 11982-1702
 TELEPHONE (607) 566-3500 FAX (607) 566-1081

LAB SAMPLE ID L44711-3

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CONTIN	SED-3/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:55 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
1-Methylphenol/4-Methylphenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Nitrobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Isochlorogenic acid	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2-Nitrophenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4-Dimethylphenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Bis(2-chloroethoxy)methane	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4-Dichlorophenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
1,2,4-Trichlorobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Naphthalene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Chloroaniline	U	ug/kg	720	14-JAN-00	EPA 8270	98-051-10072
Hexachlorocyclopentadiene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Chloro-3-methylphenol	U	ug/kg	720	14-JAN-00	EPA 8270	98-051-10072
2-Methylnaphthalene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Hexachlorocyclopentadiene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4,6-Trichlorophenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4,5-Trichlorophenol	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2-Chloronaphthalene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
Dimethyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Acenaphthylene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,6-Dinitrotoluene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
3-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
Acenaphthene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4-Dinitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
Dibenzofuran	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
2,4-Dinitrotoluene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Nitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
Diethyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Fluorene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Chlorophenylphenylether	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Nitroaniline	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
2-Methyl-4,6-dinitrophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
N-Nitrosodiphenylamine	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
4-Bromophenylphenylether	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Hexachlorobenzene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Pentachlorophenol	U	ug/kg	1400	14-JAN-00	EPA 8270	98-051-10072
Phenanthrene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Anthracene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Carbazole	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Di-n-butyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Fluoranthene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Pyrene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072

Page 4

QC NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

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Jan 20 2000 12:13 P 15



ONE RESEARCH CIRCLE WAVERLY, NY 11983-0002
TELEPHONE (607) 565-3600 FAX (607) 565-1083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-3

EMSR
Ken Carper
2005 Cabot Boulevard West
Banghorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
ORIGIN	SED-3/0.0-0.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 14:55 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
P.O. NO.	N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Butylbenzyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Benzo(a)anthracene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
3,5-Dichlorobenzidine	U	ug/kg	720	14-JAN-00	EPA 8270	98-051-10072
Chrysene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Bis-2-ethylhexyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Di-n-octyl phthalate	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Benzo(b)fluoranthene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Benzo(k)fluoranthene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Benzo(a)pyrene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Indeno(1,2,3-cd)pyrene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Dibenz(a,h)anthracene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072
Benzo(g,h,i)perylene	U	ug/kg	360	14-JAN-00	EPA 8270	98-051-10072

Extraction Information:

13-JAN-00 99-137-143

Library Search Compound:	Results	Units	Qual	Retention Time
4-Hydroxy-5-Methyl-2-Pentanone	10000	ug/kg	J	7.25
Unknown	5000	ug/kg	J	12.6
Unknown	500	ug/kg	J	38.79
Unknown	510	ug/kg	J	41.21

Surrogate Recovery:

Terphenyl-d14	88	X		98-051-10072
2-Fluorophenol	68	X		98-051-10072
Phenol-d5	73	X		98-051-10072
2,4,6-Trichlorophenol	86	X		98-051-10072
Nitrobenzene-d5	76	X		98-051-10072
2-Fluorobiphenyl	76	X		98-051-10072

Analyte Comment: Results Calculated on a dry weight basis.

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]* Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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Jan 20 2000 12:13 P.16



ONE RESEARCH CIRCLE WAVERLY, NY 11982-1112
 TELEPHONE (607) 565-3800 FAX (607) 565-1888

LAB SAMPLE ID L44711-4

DATE 20-JAN-2000

ENSR
 Ron Carper
 2905 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE
 ORIGIN
 DESCRIPTION
 SAMPLING ON
 DATE RECEIVED
 P.O. NO.

BESICORP KINGSTON
 DP-1/1.0-1.5
 GRAB
 11-JAN-00 15:35 by CLIENT
 12-JAN-00 10:05
 N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide Total	U	mg/kg	0.606	19-JAN-00	EPA 335.3	99-003-72
Total Solids	77.6	x		13-JAN-00	CLP 3.0	97-070-247
Aluminum	10100	mg/kg	9.74	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/kg	6.49	19-JAN-00	EPA 6010	99-227-02
Arsenic	U	mg/kg	15.6	19-JAN-00	EPA 6010	99-227-02
Barium	46.5	mg/kg	2.08	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/kg	0.260	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/kg	0.6490	19-JAN-00	EPA 6010	99-227-02
Calcium	2230	mg/kg	64.9	19-JAN-00	EPA 6010	99-227-02
Chromium	9.92	mg/kg	1.30	19-JAN-00	EPA 6010	99-227-02
Cobalt	4.86	mg/kg	1.30	19-JAN-00	EPA 6010	99-227-02
Copper	19	mg/kg	2.21	19-JAN-00	EPA 6010	99-227-02
Iron	14900	mg/kg	5.20	19-JAN-00	EPA 6010	99-227-02
Lead	37.5	mg/kg	5.72	19-JAN-00	EPA 6010	99-227-02
Magnesium	2120	mg/kg	64.9	19-JAN-00	EPA 6010	99-227-02
Manganese	269	mg/kg	0.649	19-JAN-00	EPA 6010	99-227-02
Nickel	14.5	mg/kg	1.56	19-JAN-00	EPA 6010	99-227-02
Potassium	638	mg/kg	64.9	19-JAN-00	EPA 6010	99-227-02
Selenium	U	mg/kg	9.09	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/kg	1.30	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by:

Lab Director

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Jan 20 2000 12:14 P.17



ONE RESEARCH CIRCLE WAVERLY, NY 11995-1002
 TELEPHONE (807) 665-3600 FAX (807) 665-0892

DATE 20-JAN-2000

LAB SAMPLE ID L44711-4

EHSR
 Ron Carper
 2903 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
OFFICE	DP-1/1.0-1.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 15:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PROJECT	N/A

analyte performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Iodine	64.1	mg/kg	26.0	19-JAN-00	EPA 6010	99-227-02
Mellium	U	mg/kg	8.44	19-JAN-00	EPA 6010	99-227-02
Vanadium	13.4	mg/kg	1.30	19-JAN-00	EPA 6010	99-227-02
Zinc	67.6	mg/kg	2.60	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Vinyl chloride	U	ug/kg	3	18-JAN-00	EPA 8260	99-214-9625
Chloroethene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Bromoethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,1-Dichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Acetone	U	ug/kg	31	18-JAN-00	EPA 8260	99-214-9625
Carbon disulfide	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Methylene Chloride	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
trans-1,2-Dichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,1-Dichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
cis-1,2-Dichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Methyl ethyl ketone (2-Butanone)	U	ug/kg	31	18-JAN-00	EPA 8260	99-214-9625
Chloroform	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,1,1-Trichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Carbon tetrachloride	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Benzene	U	ug/kg	0.9	18-JAN-00	EPA 8260	99-214-9625
1,2-Dichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Trichloroethene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,2-Dichloropropane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Bromochloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
cis-1,2-Dichloropropane	U	ug/kg	4	18-JAN-00	EPA 8260	99-214-9625
Methyl isobutyl ketone	U	ug/kg	13	18-JAN-00	EPA 8260	99-214-9625
Toluene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
trans-1,3-Dichloropropane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,1,2-Trichloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Tetrachloroethene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
2-Hexanone	U	ug/kg	13	18-JAN-00	EPA 8260	99-214-9625
Dibromochloromethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Chlorobenzene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Ethylbenzene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
p-Xylene/m-Xylene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
o-Xylene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625

Page 2

QC NY 10252 NJ 73108 PA 68180 EPA NY 00033

Approved by:

[Signature]
 Lab Director

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Jan 20 2000 12:14 P.18



ONE RESEARCH CIRCLE WAVERLY, NY 12168
 TELEPHONE (807) 565-3500 FAX (807) 565-4083

DATE 20-JAN-2000

LAB SAMPLE ID L44711-4

ENBR
 Ron Carper
 2005 Cabot Boulevard West
 Banghorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
CHEM	DP-1/1.0-1.5
DESCRIPTION	GRAB
SAMPLE TIME	11-JAN-00 15:35 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PREP	N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Styrene	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
Bromoform	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625
1,1,2,2-tetrachloroethane	U	ug/kg	6	18-JAN-00	EPA 8260	99-214-9625

Library Search Compounds	Results	Units	Qual	Retention Time
unknown	7	ug/kg	J	5.29
unknown	10	ug/kg	J	20.78
unknown	21	ug/kg	J	21.87

Surrogate Recovery:

Dibromotetraethane	110	%		99-214-9625
Toluene	109	%		99-214-9625
4-Bromobromobenzene	120	%		99-214-9625

Analysis Comment: Dry weight basis. Internal standard 4 out of limits low.

EPA 8082

PCB	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
PCB 1016	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569
PCB 1221	U	mg/kg	0.25	18-JAN-00	EPA 8082	99-108-3569
PCB 1232	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569
PCB 1242	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569
PCB 1248	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569
PCB 1254	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569
PCB 1260	U	mg/kg	0.12	18-JAN-00	EPA 8082	99-108-3569

Extraction Information:

12-JAN-00 99-154-152

Surrogate Recovery:

Decachlorobiphenyl	102	%		99-108-3569
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Analysis Comment: PCB results are calculated on a dry weight basis.

EPA 8270

Analyte	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Bis(2-chloroethyl)ether	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Phenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2-Chlorophenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
1,3-Dichlorobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
1,4-Dichlorobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
1,2-Dichlorobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Bis(2-chloropropyl)ether	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2-Methylphenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by:

[Signature]
 Lab Director

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"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WASHINGTON, NY 10992-1002
TELEPHONE (607) 565-8500 FAX (607) 565-8900

DATE 20-JAN-2000

LAB SAMPLE ID L44711-4

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE: BESICORP KINGSTON
LOCATION: DP-1/1.0-1.5
DESCRIPTION: GRAB
SAMPLED ON: 11-JAN-00 15:35 by CLIENT
DATE RECEIVED: 12-JAN-00 10:05
PLOT NO.: N/A

Analyte Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Hexachloroethane	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
N-Nitrosodi-N-propylamine	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
3-Methylphenol/4-Methylphenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Nitrobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Isophorone	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2-Nitrophenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4-Dimethylphenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Bis(2-chloroethoxymethane)	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4-Dichlorophenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
1,2,4-Trichlorobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Naphthalene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Chloroaniline	U	ug/kg	630	14-JAN-00	EPA 8270	98-051-10073
Hexachlorocyclopentadiene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Chloro-3-methylphenol	U	ug/kg	630	14-JAN-00	EPA 8270	98-051-10073
2-Methylnaphthalene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Hexachlorocyclopentadiene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4,6-Trichlorophenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4,5-Trichlorophenol	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2-Chloronaphthalene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2-Nitroaniline	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
Dimethyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Acenaphthylene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,6-Dinitrotoluene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
3-Nitroaniline	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
Acenaphthene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4-Dinitrophenol	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
Dibenzofuran	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
2,4-Dinitrotoluene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Nitrophenol	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
Diethyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Fluorene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Chlorophenylphenylether	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Nitroaniline	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
2-Methyl-4,6-dinitrophenol	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
N-Nitrosodiphenylamine	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
4-Bromophenylphenylether	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Hexachlorobenzene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Pentafluorophenol	U	ug/kg	1300	14-JAN-00	EPA 8270	98-051-10073
Phenanthrene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Anthracene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Carbazole	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Di-n-butyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073

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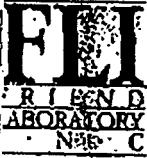
QC NY 10252 NJ 73168 PA 88180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = Nono Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank result estimated below the quantitative limit

The information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the amount paid for the analysis. Our samples will be discarded after 14 days unless we are advised otherwise.

"Our family, caring about your analytical needs... Since 1963."



ONE RESEARCH CIRCLE WAVERLY, NY 10998
 TELEPHONE (607) 656-3500 FAX (607) 656-3500

LAB SAMPLE ID L44711-4

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Bangor, PA 19047

SAMPLE SUBJECT: BESICORP KINGSTON
 ADDRESS: DP-1/1.0-1.5
 DESCRIPTION: GRAB
 SAMPLED ON: 11-JAN-00 15:35 by CLIENT
 DATE RECEIVED: 12-JAN-00 10:05
 COMMENTS: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Fluoranthene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Pyrene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Butylbenzyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
benzo(a)anthracene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
3,3-Dichlorobenzidine	U	ug/kg	630	14-JAN-00	EPA 8270	98-051-10073
Chrysene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
di-2-ethylhexyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Di-n-octyl phthalate	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Benzo(b)fluoranthene	89 J	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Benzo(k)fluoranthene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Benzo(a)pyrene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Indeno(1,2,3-cd)pyrene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Dibenz(a,h)anthracene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073
Benzo(g,h,i)perylene	U	ug/kg	320	14-JAN-00	EPA 8270	98-051-10073

Extraction Information:

13-JAN-00 99-137-143

Library Search Compounds:	Results	Units	Qual	Retention Time
4-Hydroxy-4-Methyl-2-Pentanone	7400	ug/kg	J	7.25
Unknown	4100	ug/kg	J	12.61
Unknown	1000	ug/kg	J	38.19
Unknown	780	ug/kg	J	38.8
Unknown	570	ug/kg	J	40.5
Unknown	1300	ug/kg	J	41.22
Unknown	370	ug/kg	J	44.33
Unknown	590	ug/kg	J	44.52

Surrogate Recovery:

Terphenyl-d14	84	X		98-051-10073
2-Fluorobiphenyl	62	X		98-051-10073
Phenol-d5	69	X		98-051-10073
2,4,6-Trichlorophenol	65	X		98-051-10073
Nitrobenzene-d5	71	X		98-051-10073
2-Fluorobiphenyl	72	X		98-051-10073

Analysis Comment: Results Calculated on a dry weight basis.

QC NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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ONE RESEARCH CIRCLE WAVERLY, NY 11985-1002
 TELEPHONE (607) 665-9500 FAX (607) 665-9883

DATE 20-JAN-2000

LAB SAMPLE ID L44711-5

OWNER
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	SS-1/1.0-1.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 16:15 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
PREP NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Cyanide Total	U	mg/kg	0.425	19-JAN-00	EPA 335.3	99-003-72
Total Solids	92.1	X		13-JAN-00	CLP 3.0	97-070-247
Aluminum	6940	mg/kg	8.28	19-JAN-00	EPA 6010	99-227-02
Antimony	U	mg/kg	5.52	19-JAN-00	EPA 6010	99-227-02
Arsenic	U	mg/kg	13.2	19-JAN-00	EPA 6010	99-227-02
Barium	15.8	mg/kg	1.77	19-JAN-00	EPA 6010	99-227-02
Beryllium	U	mg/kg	0.221	19-JAN-00	EPA 6010	99-227-02
Cadmium	U	mg/kg	0.5520	19-JAN-00	EPA 6010	99-227-02
Calcium	150	mg/kg	55.2	19-JAN-00	EPA 6010	99-227-02
Chromium	7.39	mg/kg	1.10	19-JAN-00	EPA 6010	99-227-02
Cobalt	5.71	mg/kg	1.10	19-JAN-00	EPA 6010	99-227-02
Copper	7.06	mg/kg	1.88	19-JAN-00	EPA 6010	99-227-02
Iron	13400	mg/kg	4.41	19-JAN-00	EPA 6010	99-227-02
Lead	10	mg/kg	4.86	19-JAN-00	EPA 6010	99-227-02
Magnesium	2540	mg/kg	55.2	19-JAN-00	EPA 6010	99-227-02
Manganese	363	mg/kg	0.552	19-JAN-00	EPA 6010	99-227-02
Nickel	15.2	mg/kg	1.32	19-JAN-00	EPA 6010	99-227-02
Potassium	593	mg/kg	55.2	19-JAN-00	EPA 6010	99-227-02
Selenium	U	mg/kg	7.73	19-JAN-00	EPA 6010	99-227-02
Silver	U	mg/kg	1.10	19-JAN-00	EPA 6010	99-227-02

Page 1

QC NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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Jan 20 2000 17:16 P.22



ONE RESEARCH CIRCLE WAVERLY, NY 10996
 TELEPHONE (607) 566-3600 FAX (607) 566-3602

LAB SAMPLE ID L44711-5

DATE 20-JAN-2000

ENSR
 Ron Carper
 2005 Cabot Boulevard West
 Langhorne, PA 19047

SAMPLE SOURCE	BESICORP KINGSTON
LOCATION	SS-1/1.0-1.5
DESCRIPTION	GRAB
SAMPLED ON	11-JAN-00 16:15 by CLIENT
DATE RECEIVED	12-JAN-00 10:05
ANALYST	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Sodium	45.9	mg/kg	22.1	19-JAN-00	EPA 6010	99-227-02
Thallium	U	mg/kg	7.17	19-JAN-00	EPA 6010	99-227-02
Vanadium	9.26	mg/kg	1.10	19-JAN-00	EPA 6010	99-227-02
Zinc	33.9	mg/kg	2.21	19-JAN-00	EPA 6010	99-227-02
EPA 8260						
Chloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Vinyl chloride	U	ug/kg	2	18-JAN-00	EPA 8260	99-214-9626
Chloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Bromoethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,1-Dichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Acetone	U	ug/kg	27	18-JAN-00	EPA 8260	99-214-9626
Carbon disulfide	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Methylene chloride	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
trans-1,2-Dichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,1-Dichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
cis-1,2-Dichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Methyl ethyl ketone (2-Butanone)	U	ug/kg	27	18-JAN-00	EPA 8260	99-214-9626
Chloroform	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,1,1-Trichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Carbon tetrachloride	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Benzene	U	ug/kg	0.7	18-JAN-00	EPA 8260	99-214-9626
1,2-Dichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Trichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,2-Dichloropropane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Bromodichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
cis-1,3-Dichloropropane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Methyl isobutyl ketone	U	ug/kg	11	18-JAN-00	EPA 8260	99-214-9626
Toluene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
trans-1,3-Dichloropropane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,1,2-Trichloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Tetrachloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
2-Hexanone	U	ug/kg	11	18-JAN-00	EPA 8260	99-214-9626
Dibromochloromethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Chlorobenzene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Ethylbenzene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
p-Xylene/m-Xylene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
o-Xylene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626

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OC NY 10282 NJ 73188 PA 88180 EPA NY 00033

Approved by: *[Signature]*

Lab Director

KEY: ND or U = None Detected < = less than ug/l micrograms per liter (equivalent to parts per billion)
 mg/L = milligrams per liter (equivalent to parts per million) mg/kg milligrams per kilogram (equivalent to parts per million)
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Jan 20 2000 17:17 P.23



ONE RESEARCH CIRCLE WAVERLY, NY 10898-0002
TELEPHONE (607) 565-8500 FAX (607) 565-1997

DATE 20-JAN-2000

LAB SAMPLE ID L44711-5

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE: BESICORP KINGSTON
CLIENT: SS-1/1.0-1.5
SAMPLING METHOD: GRAB
SAMPLING DATE: 11-JAN-00 16:15 by CLIENT
DATE RECEIVED: 12-JAN-00 10:05
FIELD NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Styrene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
Triclorobenzene	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626
1,1,2,2-Tetrachloroethane	U	ug/kg	5	18-JAN-00	EPA 8260	99-214-9626

Library Search Compound:	Results	Units	Qual	Retention Time
unknown	6	ug/kg	J	5.28
unknown	6	ug/kg	J	21.87

Surrogate Recovery:

1-Bromofluoromethane	104	%		99-214-9626
toluene-d8	100	%		99-214-9626
1-Bromo-2-chlorobenzene	104	%		99-214-9626

Analysis Comment: Results Calculated on a dry weight basis.

EPA 8082:

CB 1016	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570
CB 1221	U	ng/kg	0.21	18-JAN-00	EPA 8082	99-108-3570
CB 1232	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570
CB 1242	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570
B 1248	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570
CB 1254	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570
CB 1260	U	ng/kg	0.1	18-JAN-00	EPA 8082	99-108-3570

Extraction Information:

Surrogate Recovery: 110 %
1,2-dichlorobiphenyl
Analysis Comment: PCB results are calculated on a dry weight basis.

EPA 8270:

1,1-Dichloroethane	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Phenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1-Chloroethanol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,3-Dichlorobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,4-Dichlorobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,2-Dichlorobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,1,2-Trichloroethane	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,2-Dichloropropane	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,1,1-Trichloroethane	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,1,2,2-Tetrachloroethane	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070

NY 10252 NJ 73188 PA 88180 EPA NY 00033

Approved by: [Signature] Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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"Our family, caring about your analytical needs... Since 1963."

Jan 20 2000 17:17 P.24



ONE RESEARCH CIRCLE WAVERLY, NY 11987-0002
TELEPHONE (607) 565-2500 FAX (607) 565-2500

LAB SAMPLE ID L44711-5

DATE 20-JAN-2000

ENSR
Ron Carper
2005 Cabot Boulevard West
Langhorne, PA 19047

SAMPLE SOURCE: BESICORP KINGSTON
LOCATION: SS-1/1.0-1.5
DESCRIPTION: GRAB
SAMPLED ON: 11-JAN-00 16:15 by CLIENT
DATE RECEIVED: 12-JAN-00 10:05
PREP: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
N-Nitrosodimethylamine	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
3-Methylphenol/4-Methylphenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Nitrobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Isophthalene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2-Nitrophenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4-Dimethylphenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Bis(2-chloroethoxymethane)	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4-Dichlorophenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
1,2,4-Trichlorobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Naphthalene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Chloroaniline	U	ug/kg	530	14-JAN-00	EPA 8270	98-051-10070
Hexachlorobutadiene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Chloro-3-methylphenol	U	ug/kg	530	14-JAN-00	EPA 8270	98-051-10070
2-Methylnaphthalene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Hexachlorocyclopentadiene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4,6-Trichlorophenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4,5-Trichlorophenol	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2-Chloronaphthalene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2-Nitroaniline	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
Dimethyl phthalate	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Acenaphthylene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,6-Dinitrotoluene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
3-Nitroaniline	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
Acenaphthene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4-Dinitrophenol	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
Dibenzofuran	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
2,4-Dinitrotoluene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Nitrophenol	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
Diethyl phthalate	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Fluorene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Chlorophenylphenylether	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Nitroaniline	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
2-Methyl-4,6-dinitrophenol	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
N-Nitrosodiphenylamine	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
4-Acrophenylphenylether	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Hexachlorobenzene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Pentachlorophenol	U	ug/kg	1100	14-JAN-00	EPA 8270	98-051-10070
Phenanthrene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Anthracene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Carbazole	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Di-n-butyl phthalate	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070
Fluoranthene	U	ug/kg	260	14-JAN-00	EPA 8270	98-051-10070

Page 4

QC: NY 10252 NJ 73188 PA 68180 EPA NY 00033

Approved by: *[Signature]*
Lab Director

KEY: ND or U = None Detected < = less than ug/L micrograms per liter (equivalent to parts per billion)
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"Our family, caring about your analytical needs... Since 1963."

Jan 20 2000 12:17 P.25



AL, Florence
(256) 767-1210
AK, Anchorage
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