Appendix B

Environmental

Finding of No Significant Impact (FONSI)

NEPA Scoping Letter

NEPA Scoping Letter Responses

U.S. Fish and Wildlife Service Planning Aid Report

Phase 1A Cultural Resource Investigation and NYSHPO Response

GTS Technologies – Final Site Investigation Report – July 2015

Eder Associates Poultry Plant Test Report – 1997

NYSDEC Poultry Plant Facility File Letter - 2001

FINDING OF NO SIGNIFICANT IMPACT

Upper Delaware River Watershed, Livingston Manor, New York Flood Risk Management and Ecosystem Restoration Feasibility Report and Integrated Environmental Assessment

The Philadelphia District, U.S. Army Corps of Engineers (Corps) has evaluated flood risk management and associated ecosystem restoration projects to reduce the recurrence of frequent flooding and to restore and/or improve degraded fish and wildlife habitat within the community of Livingston Manor, New York. This evaluation provided a screening of structural and nonstructural measures that can be used to manage risks from riverine flooding, as well as an evaluation of potential associated ecosystem restoration opportunities along the river corridor.

This feasibility report documents the initial planning and engineering efforts required to determine potentially implementable solutions that provide reduction in surface water levels during frequently recurring events, including erosion and sediment stabilization features that also provide ecosystem benefits through habitat improvements. The investigation of the problems and opportunities in the study area led to the establishment of the following planning objectives:

1) Reduce frequent flooding damages in the Livingston Manor area for at least the 20-year storms.
2) Stabilize degraded stream channels in the Livingston Manor area using sustainable design techniques.
3) Improve degraded riparian buffers with native vegetation.

An Environmental Assessment has been prepared which evaluates the project area lands and proposed project measures. The U.S. Army Corps of Engineers, Philadelphia District, has prepared this Environmental Assessment in accordance with the provisions of the National Environmental Policy Act (NEPA) of 1969, as amended, the Council of Environmental Quality's (CEQ) regulations (40 CFR 1500-1508), and the Corps' Engineering Regulation (ER) 200-2-2, Procedures for Implementing NEPA, 4 March 1988. A scoping letter soliciting input on the proposed project was sent to appropriate state and federal agencies, as well as other potentially interested parties in November 2009. Additionally, the draft Feasibility Study and Integrated Environmental Assessment for the project has been forwarded to the U.S. Environmental Protection Agency, Region II; the U.S. Fish and Wildlife Service; the National Marine Fisheries Service; the NYDEC; the National Park Service; and all other known interested parties. All comments received on this project were given appropriate consideration.

The draft Environmental Assessment has shown that the proposed activity is not likely to jeopardize the continued existence of any species or the critical habitat of any fish, wildlife or plant, which is designated as endangered or threatened pursuant to Section 7 of the Endangered Species Act, as amended. All currently recommended avoidance measures which include timing restrictions will be adhered to for the project.

Work in waters of the United States, including wetlands, must be in compliance with Section 404 of the Clean Water Act. In accordance with Section 404 of the Clean Water Act, a

Section 404(b)(1) analysis was prepared for the proposed action. Attempts to avoid and minimize impacts associated with fill material was made; and, it is believed that unavoidable impacts will be offset by increased stream and riparian floodplain function, as well as the improved riparian buffer along the 1 mile stream stabilization segment of the project. The requirements of Executive Order 11990, Protection of Wetlands, are therefore met.

Work in waters of the United States, including wetlands, must be also be in compliance with Section 401 of the Clean Water Act. The New York State Department of Environmental Conservation is responsible for issuance or waiver of the Section 401 State water quality certification for any work, which may affect water or waterways in the state through their Protection of Waters Regulatory Program. As a project partner, the Corps will work closely with the Department of Environmental Conservation to obtain necessary state approvals, including a Section 401 State Water Quality Certification prior to construction.

In accordance with guidelines established under Section 106 of the National Historic Preservation Act of 1966, as amended, the New York State Historic Preservation Office determined that the proposed project would have no effect on cultural and historic resources with the proper use of planning and avoidance measures. Areas of known cultural and historic resources are identified and protected with a buffer zone. The project was coordinated with the New York State Parks, Recreation & Historic Preservation Office, and the Tribes, consisting of the Delaware Tribe, the Delaware Nation, the Saint Regis Mohawk, the Stockbridge-Munsee Community of Mohican Indians, the Eastern Shawnee and the Oneida Nation. Due to the scope of the project and implementation of proper planning and avoidance measures, the project will have no effect on cultural and historic resources.

Upon reviewing the Environmental Assessment, I find that potential negative environmental impacts associated with this project will not be significant. Any adverse impacts will be short-term and minor in nature. Site specific design and construction prescriptions provided by the resource agencies will insure adequate protections are incorporated into the project to minimize negative impacts and protect existing resources during project implementation. Long term beneficial impacts are expected with flood risk benefits, floodplain and stream function; as well as incidental benefits of improved recreation. Based upon this finding, preparation of an Environmental Impact Statement is not required.

____

Date

____

Michael Bliss
Lieutenant Colonel, Corps of Engineers
District Engineer

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Resources Branch

NOV 25 2009

Ms. Grace Musumeci, Chief
Environmental Review Section
Strategic Planning and Multi-Media Programs Branch
USEPA Region 2
290 Broadway
New York, New York 10007-866

Dear Ms. Musumeci:

The Philadelphia District is preparing an Environmental Assessment for the Upper Delaware River Watershed, Livingston Manor, New York, Feasibility Study (Enclosure 1). The purpose of this correspondence is to solicit your agency's or interest's comments regarding existing environmental conditions within the watershed to include site specific restoration and flood damage reduction projects and the potential environmental effects of those projects.

The purpose of the feasibility study is to indentify and evaluate Flood Risk Management (FRM) options in the Livingston Manor, New York area utilizing a combination of environmental restoration alternatives and traditional flood risk management measures. Recommendations using only traditional flood reduction structures from previous studies of the area have not been economically justifiable. The decision document will present planning, engineering, and implementation details of the recommended plan to allow final design and construction to proceed subsequent to the approval of the plan. The analysis is a General Investigations study undertaken to evaluate combinations of structural and non-structural flood risk management measures using both traditional and environmental restoration options that contribute to flood risk management for three waterways in Livingston Manor; the Little Beaver Kill, Willowemoc Creek and Cattail Brook (Enclosure 2). The feasibility phase of this project is cost-shared with the project sponsor, the State of New York, Department of Environmental Conservation.

A reconnaissance study of the Upper Delaware River Watershed in New York was completed in July, 1997. Following that reconnaissance study, the USACE undertook the feasibility study described herein. The purpose of a feasibility study is to ensure the timely and economical completion of a quality feasibility report that is expected to recommend an implementable solution to the identified problems. The feasibility report will present the results of a feasibility level study and will accomplish the following:

a. Provide a complete presentation of study results and findings so that readers can reach independent conclusions regarding the reasonableness of recommendations.

b. Indicate compliance with applicable statutes, executive orders and policies.

c. Provide a sound and documented basis for decision makers at all levels to judge the recommended solutions.

The report will document the analysis of existing conditions, without project conditions, plan formulation, and project designs in order to provide ecosystem restoration and flood damage reduction benefits for specific areas within, or directly adjacent to, Livingstone Manor, New York. The evaluations will be based on site-specific technical information developed during the course of the study. The study is being conducted in accordance with all applicable guidance, including ER 1105-2-100, Planning Guidance Notebook (Revised, April 22, 2000). An Environmental Assessment for this project will be integrated into the feasibility report in accordance with the previously referenced regulation.

The environmental assessment will be prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for implementing NEPA and U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation 200-2-2. The EA will assess existing environmental, cultural, and socio-economic conditions at the project site and will evaluate the effects of project alternatives on existing resources in the immediate and surrounding areas.

The project area is located at the junction of the Little Beaver Kill and Willowemoc Creeks in the hamlet of Livingston Manor (population 1,482) in the Town of Rockland, Sullivan County, about 76 miles northwest of New York City. Livingston Manor has been flooded five times in the last six years, including three consecutive 100-year recurrence interval events. The main damage area in Livingston Manor consists of residences and businesses situated adjacent to the confluence of the Little Beaver Kill and Willowemoc Creek. Some damage is suffered along the right bank (facing downstream) of Willowemoc Creek during major flood stages, and to the sewage treatment plant on the left bank downstream of the main damage area. Although overbank flows of Willowemoc Creek are relatively rare occurrences, high flows in that stream cause a backwater condition in the Little Beaver Kill, and occasionally Cattail Brook, frequently resulting in overbank flooding of those streams. An additional cause of backwater flooding on Little Beaver Kill is the development adjacent to the Main Street Bridge. In this area structures have encroached into the floodplain and are currently overhanging the stream banks, greatly reducing the carrying capacity of the bridge. The study will examine all practicable flood risk management and ecosystem restoration alternatives that will contribute to flood risk management, including structural and non-structural measures.

The primary cause of the most frequent flooding in Livingston Manor is the Little Beaver Kill. Flooding of the hamlet center occurs when the Little Beaver Kill overtops its banks along Pearl Street. The Corps has been involved in several studies of flooding in the Livingston Manor area, including reports issued in 1954, 1970 and 1979. However, none of those studies resulted in the construction of any flood control measures, primarily due to cost-benefit considerations. Consultation between various parties resulted in the agreement of the Corps to participate in a study of Flood Risk Management using ecosystem restoration and structural and non-structural flood reduction methods for the hamlet. Among the justifications for the project is the fact that land use changes have occurred since the last Reconnaissance Report. In addition, there are opportunities and a need for ecosystem restoration in the project area. The project area lies within the watershed of the Beaverkill, a nationally-recognized trout fishery. The Little Beaver Kill and Willowemoc Creek are important tributaries. A change in course of the Little Beaver Kill away from its natural streambed into abandoned gravel pits has occurred, which has degraded physical habitat and raised stream temperatures. Thermal conditions on the Little Beaver Kill have been extensively studied by the NYSDEC. Resolution of the thermal problem and other ecological issues involving channel stability, erosion and deposition, and wetland/floodplain losses are also a high priority of the NYSDEC and stakeholder organizations such as The Nature Conservancy and Trout Unlimited.

The following is a partial list of flood risk management and environmental restoration alternatives that will be considered during the feasibility study (Enclosure 3):

- environmental enhancement of upstream impoundments for storm water detention
- removal of/or modifications to structural obstructions to stream flow (bridges, roads and under-sized hydraulic structures)
- install rock grade structures to reduce and redirect stream flow and enhance habitat
- construction of wetlands and additional flood plain areas
- realign stream confluence to increase channel capacity
- construction of a high flow diversion channel
- modifications to existing storm water detention structures
- construction of protective floodwall structures
- modification to existing floodwall and levee systems
- restore stream channel and riparian areas to reduce thermal impacts

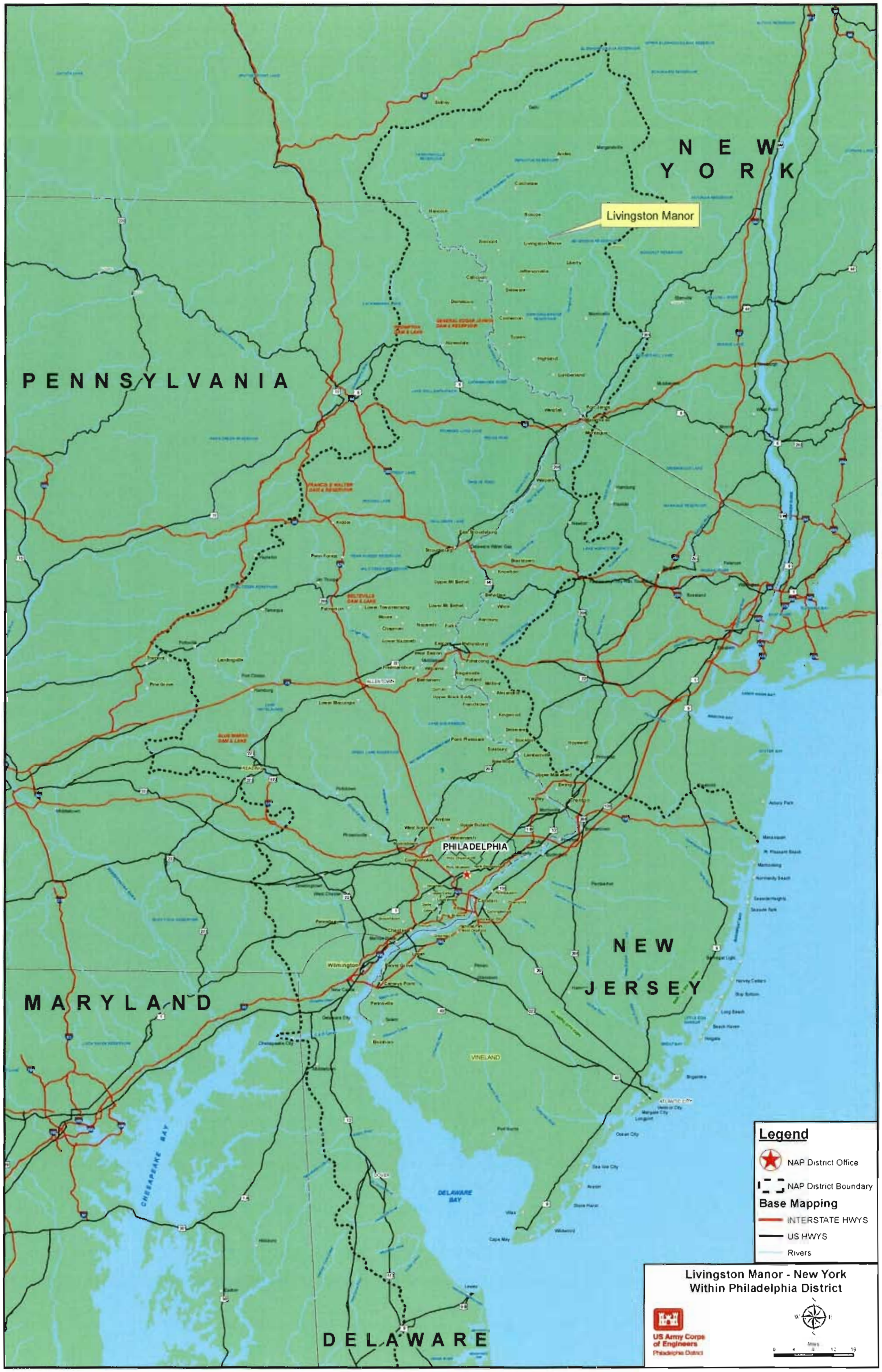
To assist us in identifying environmental issues that may affect the implementation of this project, please provide written comments concerning interests within your agency's or interest's area of responsibility. Specific issues of concern include transportation; infrastructure; cultural resources, including view shed and aesthetic resources; the presence of rare, threatened or endangered species; fish and wildlife resources; jurisdictional wetlands or other critical habitats; wild and scenic rivers; prime and unique farmlands; air and water quality, and /or highly erodible soils at or near the proposed project sites.

Please contact my project biologist, Mr. Gregory Wacik (Gregory.A.Wacik@usace.army.mil) directly at (215) 656-6561 if you should have any further questions or require additional information. Please provide any comments you may have within 30-days of receiving this letter. Your cooperation in this matter is appreciated.

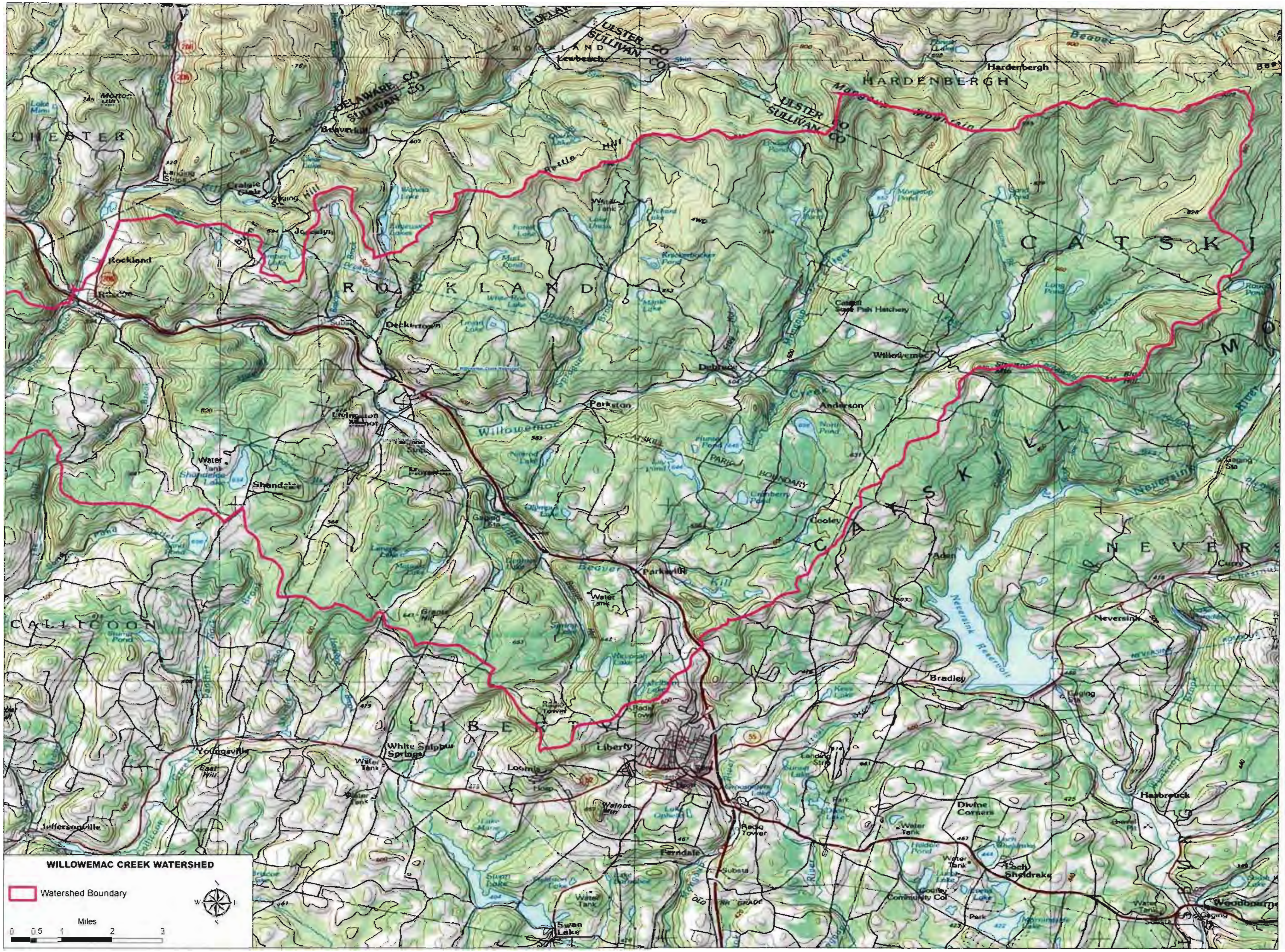
Sincerely,

for C. MacIntosh
Minas M. Arabatzis.
Chief, Planning Division

Enclosures



Livingston Manor - New York
Within Philadelphia District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Roscoe
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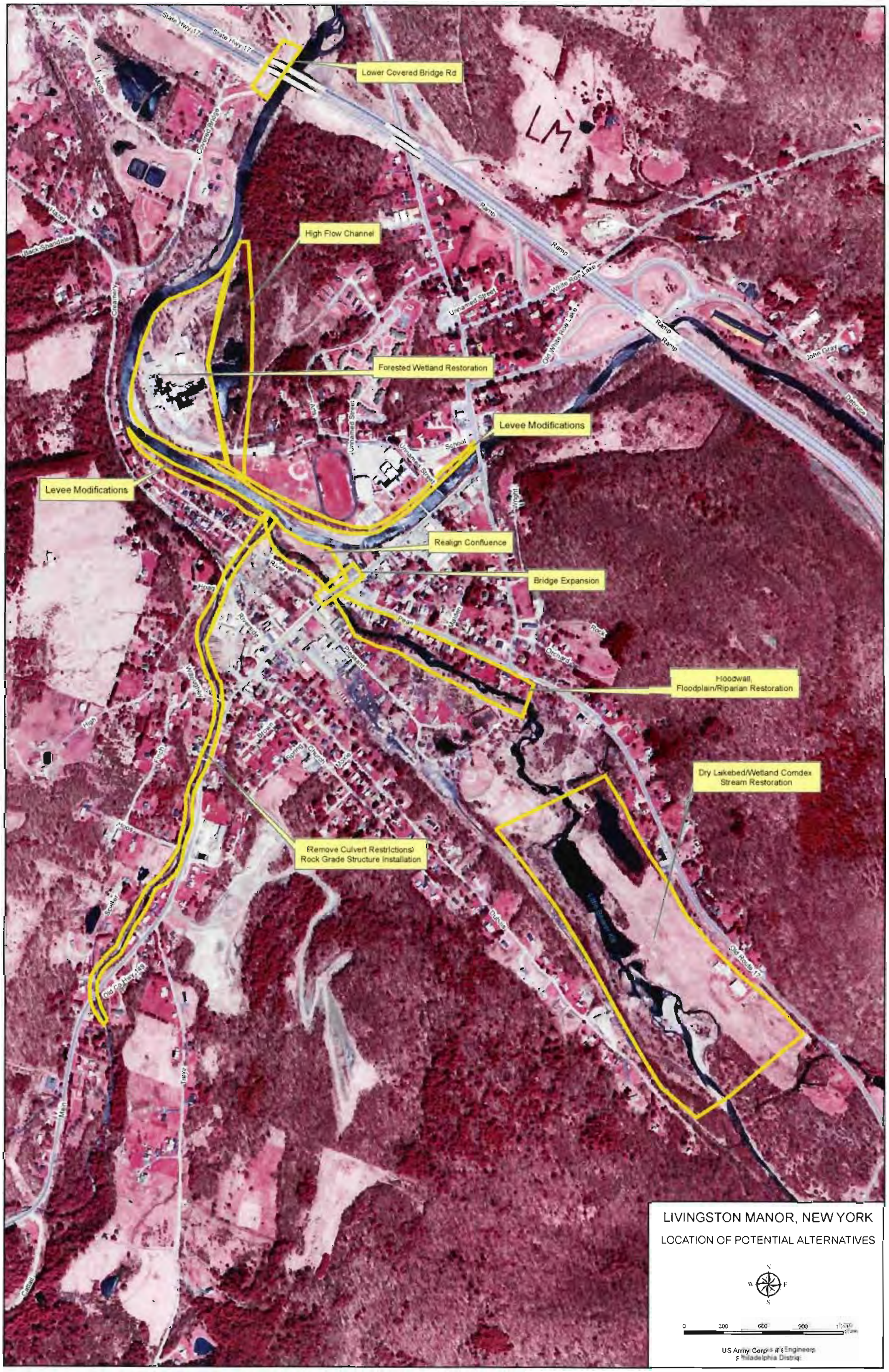
DeBruce
Willowemoc
Parksville
Liberty
Shandelee
Lew Beach
Beaverkill
Hardenbergh
Parkston
Anderson
Cooley
Aden
Bradley
Neversink
Youngsville
White Sulphur Springs
Loomis
Ferndale
Swan Lake
Jeffersonville
Divine Corners
Loch Sheldrake
Hasbrouck
Woodbourne
Claryville
Mongaup Pond
Catskill State Fish Hatchery
CATSKILL PARK BOUNDARY
ULSTER CO
SULLIVAN CO
DELAWARE CO



LIVINGSTON MANOR, NEW YORK

LOCATION OF POTENTIAL ALTERNATIVES

US Army Corps of Engineers
Philadelphia District

Ms. Grace Musumeci, Chief
Environmental Review Section
USEPA Region 2
290 Broadway
New York, New York 10007-866

Mr. Timothy Sullivan
U.S. Fish and Wildlife Service
New York Field Office – Region 5
3817 Luker Road
Cortland, NewYork 13045

Ms. Carol R. Collier, Executive Director
Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Mr. William Muszynski, Branch Manager
Water Resources Management
Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Ms. Tracy Carluccio, Deputy Director
Delaware Riverkeeper Network
300 Pond Street, Second Floor
Bristol, Pennsylvania 19007

Mr. Nathaniel Gillespie
Fisheries Scientist & Director of Eastern Lands Protection Program
Trout Unlimited

1300 N. 17th Street, Suite 500
Arlington, Virginia 20010

Mr. Manny Zanger
Beamoc Chapter
Trout Unlimited
62 Beaverkill Mountain Road
Roscoe, New York 12776

Mr. Frank Baker
Catskill Mountain Chapter
Trout Unlimited
681 Sawkill Road
Kingston, New York 12401

Mr. Ron Urban
Council Chair, New York State Council
Trout Unlimited
213 Chestnut Street
Oneonta, New York 13820

Ms. Mari-Beth Delucia
The Nature Conservancy
P.O. Box 617
Cuddebackville, New York 12729

Mr. Bill Rudge
Natural Resources Supervisor
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Mr. Willie Janeway, Regional Director
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Ms. Jill Weyer, Chief Planner
Sullivan County
100 North Street
P.O. Box 5012, Government Center
Monticello, New York 12701

Mr. Chris White, District Representative
Office of Congressman Maurice Hinchey
City Hall, Third Floor
16 James Street
Middletown, New York 10940

Mr. Stanley Martin, Supervisor
Town of Rockland
95 Main Street
Livingston Manor, New York 12758

Ms. Ruth Pierpont, Director
New York State Historic Preservation Office
Peebles Islands Resources Center
PO Box 189
Waterford, New York 12188-0189

Mr. Michael Clifford
District Conservationist
United States Department of Agriculture
Susquehanna-Delaware Team
44 West Street
Walton, New York 13856-1041

Mr. Brian Brustman, District Manager
Sullivan County Soil and Water Conservation District
64 Ferndale-Loomis Road
Liberty, New York 12754

Ms. Jennifer Grossman, Esq.
Vice President for Land Acquisition
Open Space Institute
1350 Broadway, Suite 201
New York, New York 10018

Mr. James Dezolt, Director
Division of Water, Flood Protection
NYS DEC
625 Broadway
Albany, New York 12233-3507

Mr. Jack Isaacs
Division of Habitat Protection
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Mr. Alec Ciesluk
Division of Environmental Permits
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Mr. Michael Flaherty
Division of Fisheries
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Mr. Ted Kerpez
Division of Wildlife
NYS DEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561

Ms. Lisa F. Garcia, Esq.
Office of Environmental Justice
NYS DEC
625 Broadway, 14th Floor
Albany, New York 12233-1500

Mr. Robert Davies, Director
Division of Lands and Forest
NYS DEC
625 Broadway, 5th Floor
Albany, New York 12233-4250

Mr. David Soete
Upper Delaware Council
211 Bridge Street
Narrowsburg, New York 1276-0192

Upper Delaware Scenic and Recreational River
274 River Road
Beach Lake, Pennsylvania 18405

Mr. Michael Schaffner, Hydrologist
National Weather Service
32 Dawes Drive
Johnson City, New York 13790

Mr. Pat Ferracane
Division of Environmental Permits
White Plains Sub-office
NYS DEC Region 3
100 Hillside Avenue, Suite 1 West
White Plains, New York 10603-2860

Mr. Joseph A. Foglietta, P.E., Regional Design Engineer
NYSDOT Region 9
44 Hawley Street
Binghamton, New York 13901-4434

Mr. Dave Hamburg
Region 9 Public Information Officer
New York State Department of Transportation State Office Building
44 Hawley Street, Room 1107
Binghamton, New York 13901

Ms. Mary A.Colvin, Chief
Floodplain Managment and Flood Insurance Branch DHS/FEMA Region II
26 Federal Plaza, 13th floor
New York, New York 10278-0002

Ms. Laura M. Tessieri, P.E., CFM
Water Resources Engineer
Delaware River Basin Commission
PO Box 7360, 25 State Police Drive
West Trenton, New Jersey 08628-0360

New York State Office of Parks, Recreation and Historic Preservation
Palisades Regional Office
Palisades Interstate Parkway
Bear Mountain, New York 10911

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo

Project Number: 100114

To: Minas Arabatzis

Date: Dec 14, 2009

Regarding: Upper Delaware River Flood Risk Management

Town/County: Town of Livingston Manor / Sullivan County

We have received your request for information regarding occurrences of Federally-listed threatened and endangered species within the vicinity of the above-referenced project/property. Due to increasing workload and reduction of staff, we are no longer able to reply to endangered species list requests in a timely manner. In an effort to streamline project reviews, we are shifting the majority of species list requests to our website at http://www.fws.gov/northeast/nyfo/es/section7.htm. Please go to our website and print the appropriate portions of our county list of endangered, threatened, proposed, and candidate species, and the official list request response. Step-by-step instructions are found on our website.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking* of listed species and applies to Federal and non-Federal activities. Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the U.S. Fish and Wildlife Service (Service), to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take"* any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any questions or require further assistance regarding threatened or endangered species, please contact the Endangered Species Program at (607) 753-9334. Please refer to the above document control number in any future correspondence.

Endangered Species Biologist: Sandra Doran Sandra Doran

*Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to ***take*** (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

U.S. Department of Homeland Security
Region II
Jacob K. Javits Federal Office Building
26 Federal Plaza, Room 1311
New York, NY 10278-0002

FEMA

December 22, 2009

Ms. Minas M. Arabatzis
Chief, Planning Division
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

Re: Notice of Intent to Prepare an Environmental Assessment for the Upper Delaware River Watershed, Livingston Manor, Town of Rockland, Sullivan County, New York

Dear Ms. Arabatzis:

In response to the scoping letter received concerning the above referenced project, this letter is to inform you that new Preliminary Flood Insurance Rate Mapping for Sullivan County, New York, was released in May 2009 by the Federal Emergency Management Agency. I recommend that the new floodplain data and mapping be considered for your agency's future planning of the proposed project in accordance with Executive Order 11988 Floodplain Management. The preliminary mapping and the Flood Insurance Study for Sullivan County are available for download from the following website: http://www.rampp-team.com/ny.htm. If you have any questions, please do not hesitate to contact Mr. Richard Einhorn, the Region II Acting Branch Chief for Floodplain Management & Insurance at (212) 680-8503.

Sincerely,

Mary Colvin for
Acting Mitigation Division Director

cc: Mr. Gregory Wacik, USACE

www.fema.gov
www.dhs.gov · PH: (212) 680-3600

New York State Department of Environmental Conservation
Office of Natural Resources, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1620
Phone: (845) 256-3092 • **FAX:** (845) 255-4659
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

December 29, 2009

Minas M. Arabatzis, Chief of Planning
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Arabatzis:

I'm writing on behalf of the New York State Department of Environmental Conservation in response to your letter of November 27, 2009 in regards to the Upper Delaware River Watershed, Livingston Manor, NY Feasibility Study.

As the project sponsor, we are most supportive of this study and wish to convey to you our continued willingness to participate in all aspects of the project. While we are supportive of the habitat restoration and ecosystem enhancements that could provide additional flood mitigation benefits, we wish to emphasize the long standing need to address the structural obstructions to stream flow. While not included in your partial list of flood risk management alternatives, the removal of structures, fill and other items that over the years have compromised the ability of the existing flood plain to function to its fullest capacity must be considered. In addition, this should include updates and enforcement of floodplain management regulations. The alternatives must also consider the impact to the communities of Livingston Manor and Roscoe; the quality of life and the cultural richness that these communities provide to residence and visitors contribute greatly to the Catskill region.

The Beaverkill and Willowemoc Valleys are of outstanding natural resource value, providing habitat for a broad spectrum of species, including eastern brook trout, a signature Catskill species that is experiencing decline throughout its range. Any alternatives under consideration must consider the potential impact it may have on this species, which has long served as an indicator of the health of this vital watershed. We are optimistic that many of the alternatives under consideration will address long recognized opportunities for habitat improvements, such as the thermal issues raised in your letter.

Thank you for providing this opportunity to ensure the study undertakes a comprehensive consideration of alternatives, and that the potential environmental impacts associated with those alternatives are considered and addressed.

Sincerely,

William Rudge

ecc: W. Janeway
R. Davies
M. Stankiewicz
P. Ferricane

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION NINE
44 HAWLEY STREET
BINGHAMTON, NEW YORK 13901-3200
WWW.NYSDOT.GOV

JOHN R. WILLIAMS, P.E.
REGIONAL DIRECTOR

STANLEY GEE
ACTING COMMISSIONER

4 January 2010

Mr. Minas M. Arabatzis
Chief, Planning Division
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Dear Mr. Arabatzis:

RE: **ENVIRONMENTAL ASSESSMENT FOR THE UPPER DELAWARE WATERSHED, LIVINGSTON MANOR, NEW YORK FEASIBILITY STUDY**

We are responding to your 27 November 2009 request for comments. The Department of Transportation is responsible for maintaining New York State Route 17 within the study area. Route 17 is a four lane controlled access principal arterial. The highway was listed in the Transportation Equity Act of 1998 as a high priority corridor to be considered for future designation as I86. The Department is continuing to upgrade the highway to meet Interstate design standards for this future designation.

One of the potential alternatives shown in attachments to your letter is located where Route 17 crosses over the Willowemoc Creek, referred to as lowering of Covered Bridge Road. Our interest would be in maintaining traffic over this stream crossing while protecting the bridge structures. We are also interested in any proposed changes to the bridges or highway in this area. Other potential alternatives locations included in the attachments do not appear to effect transportation facilities under our jurisdiction.

We do not have any specific environmental recommendations or concerns as related to the flooding issue in the study area.

Sincerely,

John L. Clark

JOHN L. CLARK, P.E.
Acting Assistant Regional Design Engineer

JLC/ay
c: File (2)

0104JLC1

David A. Paterson
Governor

Carol Ash
Commissioner

**New York State Office of Parks,
Recreation and Historic Preservation**

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

December 29, 2009

Minas M. Arabatzis
Planning Division, Philadelphia Division. USACOE
100 Penn Square East
Philadelphia, Pennsylvania 19107

Re: CORPS
Upper Delaware River Watershed Flood Control
LIBERTY, Sullivan County
09PR06639

Dear Mr. Arabatzis:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate Section 106 consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

Enclosure

REQUEST FOR ADDITIONAL INFORMATION BUILDINGS/STRUCTURES/DISTRICTS

PROJECT NUMBER 09PR06639

(Upper Delaware River Watershed Flood Control/Liberty/T/LIBERTY)

In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

☐ Full project description showing area of potential effect.

☐ Clear, original photographs of buildings/structures 50 years or older.

☐ within or ☐ immediately adjacent to the project area
** *key all photographs to a site map*

☐ Clear, original photographs of the surroundings looking out from the project site in all direction, *keyed to a site map.*

☐ Date of construction.

☐ Brief history of property.

☐ Clear, original photographs of the following:

☑ Other:

We cannot comment on the potential to affect buildings or archeological resources without more specific information about the sites and specific projects proposed for them, as well as the presence of any buildings or structures more than 50 years of age on or adjacent to the sites. We recommend that you prepare a full cultural resources report and submit it for review.

Please provide only the additional information checked above. If you have any question concerning this request for additional information, please call Kathleen LaFrank at 237-8643. ext 3261

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST

**New York State Office of Parks,
Recreation and Historic Preservation**

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

September 17, 2010

Minas M.. Arabatzis
Planning Division, Philadelphia Division. USACOE
100 Penn Square East
Philadelphia, 19107

Re: CORPS
Flood Damage Reduction/Ecosystem Restoration
Feasibility Study
Upper Delaware River Watershed LIVINGSTON
MANOR, Sullivan County
10PR05703

Dear Mr. Arabatzis:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon our review of the document *Phase IA Historic Resoucrces Investigation Technical Report, Livingston Manor, Sullivan County, New York*, prepared by A.D. Marble and Company in March 2010, SHPO concurs with the reports recommendations regarding archaeological field testing and the need for additional research on historic architectural resources.

We look forward to continued consultation on this project as you move forward with your efforts. Please be sure to refer to the OPRHP Project Review (PR) number noted above on all future correspondence regarding this project. Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

-----Original Message-----
From: Lisa Schick [mailto:lisaschick@liberty.twcbc.com]
Sent: Thursday, September 09, 2010 8:21 AM
To: Wacik, Gregory A NAP
Subject: prime soils

Gregory:

There are no prime ag soils in the areas of Livingston Manor that we have been looking at. That is the old poultry plant and airport properties. There are a few upstream of these areas, but from my understanding, would not be affected by any proposed work.

Brian Brustman
District Manager

-----Original Message-----
From: Wacik, Gregory A NAP
Sent: Tuesday, September 07, 2010 1:04 PM
To: 'lisaschick@liberty.twcbc.com'
Subject: Prime and Unique farmlands

My name is Gregory Wacik and I am an Ecologist with the US Army Corps of Engineers out of the Philadelphia office. I am working on the environmental assessment for the proposed Livingston Manor flood control/ecosystem restoration project. As part of the environmental "Existing Conditions", I am trying to gather information on whether or not Prime and Unique farmlands exist within Sullivan County, the Willowemoc, Little Beaver Kill and Cattail Brook watersheds, and specifically in or around Livingston Manor, New York. Any information you may have or direct me to a point of contact I can call would be appreciated.

Thank You,

Greg

Gregory Wacik, Ecologist
CENAP-PL-Environmental
215-656-6561

Classification: UNCLASSIFIED

DELAWARE
RIVERKEEPER®

December 22, 2009

Mr. Minas M. Arabatzis
Chief, Planning Division
US Army Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

Re: Environmental Assessment for the Upper Delaware River Watershed, Livingston Manor, NY, Feasibility Study

Dear Mr. Arabatzis,

The Delaware Riverkeeper Network is very interested in the Environmental Assessment being prepared for the Upper Delaware River Watershed's Livingston Manor area and offers the following feedback.

As your November 27, 2009 notification letter indicates, this region of the Delaware River watershed is important for aquatic life, fisheries, and the recreation and ecotourism it supports. The quality and quantity of the water that flows from this region is also important for downstream uses and communities including aquatic life, ecotourism, drinking water supply, water quality, water quantity and flood damage reduction. Therefore, the solutions that are assessed must also be considered for the ramifications they will have in the immediate vicinity but also downstream.

We believe that the focus of this study and any resulting work should not be flood risk management but rather trying to avoid, reduce and/or minimize flood damages for the immediate community under study as well as those downstream that will be the recipients of the resulting positive or negative fallout from the strategies selected.

In the recent past, small New York communities have been responding to flooding and flood damages with some very damaging, inappropriate and counterproductive strategies – such as "stream cleaning" and stream straightening projects whereby streams are dredged, scoured and literally reamed out, floodplains devegetated, natural bends removed and banks hardened in the name of flood control. These kinds of practices, along with construction of structures

Delaware Riverkeeper Network
300 Pond Street, Second Floor
Bristol, PA 19007
tel: (215) 369-1188
fax: (215) 369-1181
drkn@delawareriverkeeper.org
www.delawareriverkeeper.org

such as dams and levees cannot and should not be given any positive consideration in this feasibility analysis.

Dredging of streams is a damaging practice, particularly when done by those without expertise in stream restoration work. Gouging out the bottom of streams, removing the rock, sediment and debris below wipes out important aquatic ecosystems including both food and habitat. Dredging the stream, altering its shape, deepening and changing the form of the channel, changes the stream's flow patterns, velocity and dynamics. This can result in erosion and changed flooding patterns as a stream tries to restore some semblance of a natural flow path. Scouring out the sides of the bank including the vegetation and root systems found there can create a flume like condition shooting water more quickly downstream onto downstream neighbors while at the same time increasing downstream erosion and scour.

Hardening of streambanks with riprap or other materials similarly increases the velocity of a stream's flow thereby creating downstream erosion and scouring and in high flow conditions pushes the water more quickly onto downstream communities. Increasing erosion damages stream ecosystems as well as riparian habitats, water quality, and public and private lands.

Removing natural debris including trees, logs and brush is damaging to stream ecosystems and can also increase flow velocity thereby creating erosion and contributing to flooding problems downstream. Large branches, logs and other large woody debris found in our stream systems are important to the ecological health of our stream systems. It is not true that large woody debris must be regularly cleaned from a stream in order to relieve flooding. It is a commonly held misconception that large woody debris exacerbates flooding and should be removed from a stream system. Only large woody debris that is oriented perpendicular to the flow of the stream and covers more than 10% of the channel cross section substantially increases local water levels and the chance of flooding. In all other instances the debris has little or no impact on local water levels. The presence of large woody debris in the life cycle and health of a stream is critical. Removal of this debris destroys critical food, habitat, stream ecology and protection from erosive forces to both the stream and aquatic life.

Structural solutions for flood damage reduction and control such as dams, levees, encasing sections in concrete, stream channelizing, lining the streambank with rock-filled gabion cages, cannot and will not stop all flooding. Flooding is in fact a natural normal and needed part of a waterway's life cycle. These outdated approaches are short-sighted and economically a waste. While promising local mitigation, in the big picture they create or exacerbate flooding in neighboring communities by displacing flood flows next door or downstream. They allow building in the floodplain to continue, keeping flood victims in harms way while at the same time placing new homes in this very same predicament. The dollars spent are wasted because they do nothing to address the inevitable flood damages that will result when the next big storm covers the floodplain and the structures there. And they do tremendous ecological harm which in turn damages the ecological benefits of healthy waterway ecosystems and beautiful community aesthetics.

In the end these kinds of strategies prevent the use of other solutions that would provide more effective flood protection and flood damage reduction and at the same time protecting our environment and neighboring communities.

The focus of your feasibility assessment and future recommendations must be on floodplain, wetland and stream/river protection and restoration.

Floodplains vegetated with trees and shrubs can be four times as effective at retarding flood flows as grassy areas.[1] In addition, naturally vegetated floodplains provide breeding and feeding grounds for both fish and wildlife, they "create and enhance waterfowl habitat", and they "protect habitat for rare and endangered species."[2] Naturally vegetated floodplains are generally layered with leaf and organic matter that result in organic soils with high porosity and a greater capacity for holding water.[3] More than just being an area that can help address flooding issues in a community, the floodplain, in this natural state, is a riparian ecosystem that needs the overbank flows that the natural watershed's hydrology provides in order to remain healthy and in balance.[4]

The protection and restoration of forested floodplains reduces the harm and threat of flooding to homes, businesses and communities (1) by ensuring they are not located in these most hazardous of areas that are known to flood and (2) by reducing the peak and breadth of flooding thereby protecting homes that historically have not been located in the path of floods. Protection and restoration of the floodplain also removes the need for emergency services, the costs of rebuilding, and all of the other financial, physical and psychological costs associated with flood damaged communities located in the floodplain.

Using natural channel stream/river restoration techniques to restore ecological health and flows to natural waterways ensures their ability to most efficiently carry flood waters in a way that is protective of local and downstream communities and therefore is another important part of the approach to be used.

As for the bulleted list of recommendations in your notice, we offer the following:

Environmental enhancement of upstream impoundments for storm water detention.
The cumulative effective of detention basins can cause and/or exacerbate flooding and flood damages and therefore is not a good strategy to create and/or perpetuate. To the extent you are proposing to transform these systems into infiltration systems or to otherwise naturalize them for ecological, water quality and water quantity benefit we would view this as a positive element of an overall solution. To the extent you are seeking to maintain a detention based approach to address stormwater runoff and flows we would be highly discouraging.

Removal of/or modifications of structural obstructions to stream flow.
Removal of structural obstructions to natural stream flows is a good thing and a concept that we would support. But we believe that the focus on only bridges, roads and hydraulic structures is too limited. It is clear from your notice letter that there are homes and businesses in the floodplain that are impeding waterway flows during high flow conditions, these structures too must be considered for removal. It is inappropriate to focus only on strategies that will maintain these structures in the path of harm: (1) it ensures that they will continue to be part of the problem in terms of preventing proper function of the floodplain and (2) it ensures they will remain in the path of harm and damage.

---

[1] DNREC and Brandywine Conservancy, Conservation Design for Stormwater Management: A Design Approach to Reduce Stormwater Impacts from Land Development and Achieve Multiple Objectives Related to Land Use, September, 1997, p. 2-15

[2] DNREC and Brandywine Conservancy, Conservation Design for Stormwater Management: A Design Approach to Reduce Stormwater Impacts from Land Development and Achieve Multiple Objectives Related to Land Use, September, 1997, p. 2-15

[3] DNREC and Brandywine Conservancy, Conservation Design for Stormwater Management: A Design Approach to Reduce Stormwater Impacts from Land Development and Achieve Multiple Objectives Related to Land Use, September, 1997, p. 2-15

[4] Poff, Allan, Bain, Karr, Prestergaard, Richter, Sparks, and Stromberg, "The Natural Flow Regime", BioScience, Vol. 47, No. 11

Install rock grade structures to reduce and redirect stream flow and enhance habitat.
To the extent the structures being proposed here are part of a natural channel design strategy for stream restoration we would wholeheartedly encourage review and consideration of this approach. But if this strategy includes rip rap and other stream bank hardening strategies we would posit that such strategies are counter productive (as per our comments above) and should not be given consideration.

Construction of wetlands and additional floodplain areas.
We would urge that this strategy include consideration of restoration of wetlands and floodplains that have been harmed by previous actions, including the removal of structures inappropriately placed there such as repetitive loss properties.

Realign stream confluence to increase channel capacity.
It is very important that such an approach only be about restoring a natural channel as opposed to artificially imposing a new flow path and/or oversized channel. Imposing artificial alerations, as opposed to restoring natural ones, is not an effective mechanism for addressing unnatural flow conditions and in fact generally results in the creation of new problems elsewhere for others.

Construction of a high flow diversion channel.
Such an approach that includes construction of an artificial channel should be a last ditch option for consideration. Diverting high flow waters from one area to another is not a best practice for reducing flood damages, particularly when it is clear that permanent and complete protection can be provided by removing inappropriately placed development from the floodplain and instead restoring the area to health, thereby providing all of the flood damage reduction, water quality, water quantity, habitat, aesthetic and alternative benefits to the entire region.

Modifications of existing stormwater detention structures.
To the extent you are proposing to transform these systems into infiltration systems or to otherwise naturalize them for ecological, water quality and water quantity benefit we would view this as a positive element of an overall solution. To the extent you are seeking to maintain a detention based approach to address stormwater runoff and flows we would be highly discouraging.

Construction of protective floodwall structures.
Hardening of streambanks with levees and/or artificially creating obstructions to floodplain access forcing water to stay within a limited, defined and nonnatural channel increases the velocity of a stream's flow, and increases the volume of stream flows by forcing the water to stay within its banks and to lose the benefits of floodplain storage. The result is that more water is dumped more quickly on downstream neighbors increasing, or creating, downstream flooding and flood damages. Pushing the increased volume of water at a higher velocity also creates and/or exacerbates downstream erosion and scouring -- increasing the erosion of public and private lands and the associated threat to homes and infrastructure, increasing the damage to stream ecosystems as well as riparian habitats, and further damaging the water quality and health of the waterway.

This is absolutely not a good strategy for consideration. The ramifications of floodwalls, levees and similar structures are simply to impose the flood problem on downstream communities in addition to inflicting other harms such as erosion and ecological harm.

Modification of existing floodwall and levee systems.
To the extent the approach under consideration is removal of such structures and systems they are worthy of consideration. But maintenance of such structures in lieu of other options would not be a preferred approach.

Restore stream cannel and riparian areas to reduce thermal impacts.
Restoration of stream channels and riparian areas does not only provide thermal benefits but also provides water quality, flood damage reduction, and habitat benefits that help address the flood damage issue while at the same time benefitting all communities dependent upon healthy waterways in local communities and other communities of the region.

We thank you for the opportunity to comment.

Yours sincerely,

Maya K. van Rossum
the Delaware Riverkeeper

Nathaniel G. Gillespie
Director, Eastern Lands Protection Project
Trout Unlimited
1300 N. 17th Street, Suite 500
Arlington, VA 22209
(703) 284-9431 W

Mr. Minas Arabatzis
Chief, Division Planning
Department of the Army
Philadelphia District, Army Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

December 9, 2009

Re: Environmental Assessment for the Upper Delaware River Watershed
Livingston Manor, New York Feasibility Study

Dear Mr. Arabatzis:

Enclosed please find Trout Unlimited National Office's comments on the existing environmental conditions and potential ecological restoration and flood damage reduction project options presented in the Environmental Assessment for the Upper Delaware Watershed, Livingston Manor, New York, Feasibility Study.

Trout Unlimited's area of responsibility and concern is maintaining the nationally-renowned and economically important trout fishery in the Little Beaver Kill and Willowemoc Creeks, and restoring instream habitat, floodplain function, native plant material to riparian and floodplain areas, improving stromwater management and related water quality, and improving in-stream aquatic habitat.

As documented in Trout Unlimited's 2002 *Trout Unlimited's Beaverkill-Willowemoc Watershed Initiative, 1994-2001: An Assessment of Trout Habitat Using Hydrology and Applied Fluvial Geomorphology*, Beaverkill-Willowemoc watershed suffers from a number of alterations to the floodplain and channel habitat that have accrued over time that contribute to both increased flood damage and degradation of aquatic habitat. Construction of levees and berms, filling of floodplains, side channels and overflow channels, armoring of stream banks with rip-rap, construction of stream channels and floodplains from bridges, roads, buildings and other infrastructure, increased delivery of stormwater to stream channels via ditches, roads and stormwater infrastructure, and excavation of stream channels all have contributed to localized flood damage and degraded aquatic habitat in the Little Beaverkill and Willowemoc Creeks. Trout Unlimited supports a number of the proposed projects to reduce flood damage and restore ecological integrity and aquatic habitat that are discussed below.

Generally the following actions provided in your November 27, 2009 letter represent the preferred choices that will both provide long-term flood mitigation and enhance ecological function and aquatic habitat in the area of interest:

- Removal of/or modifications to structural obstructions to stream flow (bridges, road and undersized hydraulic structures);
- Construction and/or enhancement of wetlands and additional flood plain areas;
- Installation of instream rock grade structures to reduce and redirect stream flow and enhance aquatic habitat (using a Natural Channel Design approach);
- Modifications to existing storm water detention structures
- Restoration of in-stream channel and riparian areas to reduce thermal impacts.

As stated in Trout Unlimited's 2002 Beaverkill-Willowemoc Watershed Report, TU supports the following specific potential alternatives as provided in the map from your November 27, 2009 letter:

- Wetland complex and stream restoration on the Little Beaverkill upstream of Livingston at the old airport property. This alternative will provide water quality, water temperature and aquatic habitat benefits and should store a significant amount of flood waters.
- Floodplain/riparian restoration along the Little Beaverkill immediately upstream of Livingston Manor. This alternative will improve aquatic habitat and reduce water temperatures and should help trap debris that may otherwise collect on the Main Street bridge.
- Culvert removal and instream rock grade structures on Cattail Brook. This alternative will reduce localized flood damage associated with channel pinch points caused by inadequately sized stream crossings, while grade control will reduce flood water velocities and provide improved aquatic habitat.
- Bridge expansion the Main Street bridge over the Little Beaverkill. This alternative will reduce hydraulic constriction and associated upstream flooding along the Little Beaverkill.
- Levee modifications on the lower portion of the levee along Willowemoc Creek along the Livingston Manor School that include removal or

reduction of levee height. This alternative will allow the floodplain downstream of the school to better function and should reduce water stage height at the confluence of Willowemoc Creek and the Little Beaverkill, which should in turn reduce flood damage to the Creamery Road area along Willowemoc Creek.

- Forested wetland restoration and high flow channel construction along Willowemoc Creek at the old Falls Poultry plant property. This property has the potential to provide greater water storage and water conveyance during flood periods, and its restoration to a forested wetland will provide wildlife and recreation benefits to the community.
- Lower covered bridge road. This hydraulic constriction should be modified to convey more water during floods in order to reduce the current hydraulic constriction caused by the Route 17 bridge and bridge approach that bisects a large floodplain that historically flooded with little damage to infrastructure.

The restoration of functioning floodplains and wetlands both upstream and downstream of the hamlet of Livingston Manor provides the opportunity to reduce flood stage in the downtown, reduce flood flow velocities and provide important ecological benefits to water quality, water storage and wildlife habitat. It is important that these active flood areas be protected from additional infrastructure development via conservation easement or other deed restriction and offer compatible use, such as parkland, outdoor recreation or sports recreation so that these areas provide an amenity to the local community but that their purpose to store floodwaters and reduce flood damage is not compromised. Accordingly, the restoration of native vegetation should be an important objective of these restored floodplain and wetland areas, in order to reduce the establishment of undesirable non-native species, and to provide wildlife habitat and associated water quality benefits of a fully functioning wetland or forested wetland.

Please feel free to contact me at (703) 284-9431 with any questions or comments, and thank you for the opportunity to comment on this process.

Sincerely,

Nat Gillespie

Nathaniel Gillespie

Cc: Ron Urban, NYSCTU; Shiela Shultz, Beamoc Chapter TU; Patricia Pomeroy, Town of Rockland

TROUT UNLIMITED
Beamoc Chapter
3471 Old Rte. 17
Roscoe, NY 12776
(607-498-5464)

January 2, 2010

Mr. Minas M. Arabatzis
Chief, Planning Division
Department of the Army
Philadelphia District Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA. 19107-3390

ref.: Environmental Assessment for the Upper Delaware River Watershed-Livingston Manor, New York Feasability Study.

Dear Mr. Arabatzis:

I am writing to you as president of Beamoc Chapter of Trout Unlimited. Beamoc Chapter is affiliated with national Trout Unlimited, is membership driven and is dedicated to environmental issues affecting the Beaverkill/ Willowemoc river watershed.

Although we fully endorse the points proposed by national TROUT UNLIMITED, as articulated in Nat Gillespie's letter of December 9, 2009, we feel it necessary to emphasize a new and potentially adverse factor which will greatly exacerbate the flooding and environmental issues surrounding this project. Our concerns are local since many of our members live in the area and have been victims of past flooding. As you may imagine, our members are just as concerned about flooding as their neighbors but they also fear that attempts will be made to mitigate flooding independent of the environmental factors involved. We look forward to a solution that mitigates flooding while improving the environmental integrity of the Beaverkill/ Willowemoc River system. One of our great concerns is the I-86 highway diversion, which we see as a potentially disastrous factor. We consider the consequences of the I-86 right-of-way diversion as a potential fatal blow to any hope of finding a workable engineering-environmental solution for the Little Beaverkill.

The Beaverkill/ Willowemoc system has had numerous channel modifications over the past 150 years. In fact we would be hard pressed to find any portion of that stream that is now in the location where nature originally placed it. The railroad was first followed by roads and bridges, then commercial and residential development and now the I-86 Interstate may be delivering the final deadly blow to this productive little stream. The diversion the I-86 right-of-way between Youngs Gap, (Parksville) and Livingston Manor, New York adds a source of water run-off that will most likely overwhelm the ability of the stream channel to carry the flow.

Mitigating this increased run-off is likely to create engineering problems that will dwarf the downstream fixes currently being contemplated. Having reviewed the highway's progess we feel compelled to note our concern and suggest the scope of the environmental assessment be expanded to include the entire Little Beaverkill, from headwaters above Parksville to the mouth at Livingston Manor. We understand that flood mitigation must be the prime objective of any plan for this watershed but we respectfully suggest that the economy of Livingston Manor and several downstream locations is highly dependent upon the environmental quality of the Little Beaverkill, Willowemoc and Cattail Creek. Therefore, we suggest that environmental factors be given near equal weight with flood mitigation.
In any case we would hope that "best practices" be researched and used for this project. Implementation of a final plan that does not fully account for the biological health of these streams is likely to lead to failure and even more property and environmental damage at Livingston Manor and downstream.

Since the final plan will greatly affect the value of local properties and the future quality of our outdoor recreatioal opportunities we suggest a meeting may prove productive. Specificaly, we should discuss the expected impact of the I-86 diversion and how the study needs to be conducted to insure all relevant factors are considered. We are prepared to assist in any way appropriate and we trust you will regard our interest as positive and supportive. We look forward to your response and to learning more about your plans to improve this watershed.

Sincerely yours,

for

Manny Zanger
President-TROUT UNLIMITED
Beamoc Chapter

cc: Mr. Gregory Wacik
Project Biologist
Army Corps of Engineers

EMailed 11/19/15

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

November 19, 2015

Mr. Daniel Caprioli
Project Manager, Project Development Branch
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Bldg., 100 Penn Square East
Philadelphia, PA 19107-3390

Attention: Mr. Greg Wacik, Project Ecologist

RE: USFWS Project 10CPA0030/100114

Dear Mr. Caprioli:

This letter responds to your email of June 19, 2015, regarding the Manor Flood Risk Management and Environmental Restoration Feasibility Study for the Town of Rockland, Sullivan County, New York. The U.S. Army Corps of Engineers (Corps), Philadelphia District, continues to study the feasibility of implementing flood risk management options using environmental restoration techniques within and adjacent to the Hamlet of Livingston Manor. The goal of the project is to restore in-stream habitat and re-establish brook trout (*Salvelinus fontinalis*) populations in Little Beaver Kill Creek and reduce flood damage.

The U.S. Fish and Wildlife Service (Service) is providing this Planning Aid Letter (PAL) pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*). We understand that the Corps will incorporate the PAL into the draft feasibility and environmental assessment report that will be distributed for public comment. The PAL also includes comments pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*) and the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended).

Project History

The Service's New York Field Office provided comments on the feasibility study on August 10, 2010, and September 21, 2010 (enclosed). We understand from your email that the Corps selected a preferred alternative and the Service's Chesapeake Bay Field Office (CBFO) provided the Corps with a design report entitled, "The Little Beaver Kill Creek Stream Restoration, Livingston, New York; Project Assessment and 30% Design Report" dated June of 2015 (CBFO-S15-07). We also understand that the Corps designed a floodplain widening project at the confluence of the Little Beaver Kill and Willowemoc Creek.

Endangered Species Act

We understand that the Corps has not initiated consultation with the Service pursuant to Section 7 of the ESA as the feasibility report is still in draft. We understand that the Corps will provide the Service with a biological assessment in the near future. We are providing comments on threatened and endangered species for your information.

As you are aware, the northern long-eared bat (NLEB) (*Myotis septentrionalis*) was listed on May 4, 2015, as a threatened species. The NLEB is a medium-sized bat (3-3.7 inches long with a wingspan of up to 10 inches) that spends the winters hibernating in caves and mines. In the late spring, the bats emerge from their winter hibernacula and search for roost trees (cavities or crevices of both live and dead trees). The roosts attract pregnant females that form small colonies and give birth to a single pup per season. The NLEB has been adversely affected by a fungus (*Pseudogymnoascus destructans*) known to cause white-nose syndrome, a disease that has caused severe declines in bat populations, including NLEBs. Other threats include impacts to hibernacula and loss or degradation of summer habitat (roosts).

The project may require the removal of potential suitable roost trees prior to construction. The Service recommends that the Corps initiate consultation and evaluate all potential effects of the action (direct and indirect effects) on NLEBs, including avoidance and minimization measures. These measures may include maintaining trees over 3 inches in diameter that provide summer roosting and foraging habitat. If tree removal is necessary, we recommend that tree removal be conducted during the winter months (October 1- March 31) while bats are hibernating. For additional information on NLEBs, please visit the Services' website at http://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html.

We look forward to your effects determination.

Fish and Wildlife Coordination Act

Best Management Practices

In addition to the comments provided in the August and September 2010 letters, the Service recommends the following best management practices be incorporated into the project plans to minimize impacts to and fish wildlife resources.

- Erosion control matting: If erosion control matting is used as part of soil stabilization measures, we encourage the use of coconut or other natural fiber mesh rather than plastic monofilament to avoid trapping/killing reptiles, amphibians, and birds.

- Turbidity reduction measures should be installed prior to construction or site excavation. These measures include:
    - Perform backfilling operations in a manner that minimizes turbidity (i.e., conduct work during low water conditions and use pumps to dewater and divert water around the restoration site).
    - Stockpile materials used for stream bank reconstruction on disturbed areas (access areas with gravel or pavement) to minimize incidental conveyance of fine particulate materials.
    - Install and maintain silt fence, turbidity curtains, mulch filter tubes, coir logs, or straw wattles on the project site until the construction is complete and the area is stabilized.
    - Limit access to the stream channel by conducting work from the stream bank where feasible.
    - Stabilize the site immediately after construction or as the project progresses (per stream reach).
    - Riparian Plantings: Maintain forested riparian buffers along the stream channel to protect water quality, provide shade, and reduce erosion and sedimentation. We recommend planting native trees and shrubs together in clumped or clustered groupings rather than linearly, or in grid patterns, to allow for maximum benefit to wildlife. An invasive species management plan should be developed and implemented to eliminate the spread of invasive species and allow for native vegetation to dominate the project area.

Monitoring and Maintenance Plan

Geomorphological Monitoring. The Service recommends that the Corps develop an appropriate post-construction monitoring plan that clearly defines the thresholds of success and failure from a physical standpoint, with reference to the project objectives. The monitoring plan should identify the party responsible for conducting the monitoring and include the following standard components:

- A post-construction as-built survey
- A longitudinal profile
- A structure and bank stability evaluation using cross-sections and benchmarks

- Photo documentation with photo points, and visual inspections of stream stability

- Comparisons of all data collected should be made with respect to the design criteria

Maintenance Plan

The Corps should develop a maintenance plan that clearly states how erosion will be maintained and sedimentation minimized, who will address erosion and sedimentation problems; when maintenance will be required; identify the source of maintenance funding, the means/methods/plans for structure repairs in the event that a structure is altered or destroyed by large storm events or ice *(e.g.,* a maintenance performance bond); and, a contingency plan should the project not attain a stable cross section, profile, pattern, and dimension, or if stream banks are not properly stabilized.

Thank you for coordinating with the Service on the proposed flood risk management project. If you have any questions regarding this PAL, please contact Sandra Doran of my staff at 607-753-9334 and reference file numbers 100114/10CPA0030.

Sincerely,

Patricia Cole

for David A. Stilwell
Field Supervisor

Enclosures

cc:

CBFO, Annapolis, MD (Attn: R. Starr)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

September 21, 2010

Mr. Daniel Caprioli
Project Manager, Project Development Branch
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Bldg., 100 Penn Square East
Philadelphia, PA 19107-3390

Attention: Mr. Greg Wacik, Project Ecologist

Dear Mr. Caprioli:

This Planning Aid Letter (PAL) provides our preliminary review and comments on the Livingston Manor Flood Risk Management and Environmental Restoration Feasibility Study in the Town of Rockland, Sullivan County, New York. Currently, the U.S. Army Corps of Engineers (Corps) is studying the feasibility of implementing flood risk management options using a combination of environmental restoration techniques within and adjacent to the Hamlet of Livingston Manor. This PAL is intended to assist in subsequent project planning and does not constitute the report of the Department of the Interior or the U.S. Fish and Wildlife Service (Service) on the project within Section 2(b) of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The Service may provide additional information and comments on the project pursuant to the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712), as applicable.

The Livingston Manor Flood Risk Management and Environmental Restoration Feasibility Study was proposed by local, State, and Federal officials to address flooding problems associated with tributaries to the Delaware River in the Town of Rockland. The Corps has requested Service review of preliminary concepts and implications for local fish and wildlife resources. This PAL is based on information provided by the Corps (in a November 27, 2009, letter and Draft Peer Review Plan dated June 2008) as well as a site visit on June 3, 2010. A draft version of this PAL was provided to the Corps and the New York State Department of Environmental Conservation (NYSDEC) for review, and comments have been incorporated into this document. Additional project information as well as surveys of the project area will be necessary to determine the potential impact of the project on fish and wildlife.

Project Description

The Corps is evaluating the feasibility of restoring the ecosystem functions of portions of the Upper Delaware River Watershed in the Town of Rockland, Sullivan County, New York. Measures to reduce flooding may be applied to the Little Beaver Kill, Willowemoc, and Cattail Brook within the project area. A feasibility study is currently underway to determine the costs and benefits associated with environmental restoration and flood damage reduction options as authorized by the U.S. House of Representatives Committee on Transportation and Infrastructure, Resolution No. 2495. The study is being conducted in accordance with Section 905(b) of the Water Resources Development Act of 1986. The Corps has reviewed potential restoration concepts to enhance habitat for fish and wildlife, reduce flooding potential along area waterways, and to protect eroding areas.

Previous studies of flooding issues resulted in the issuance of reports in 1954, 1970, and 1979 as well as a 1997 reconnaissance study by the Corps. No action was taken on flood reduction strategies following those reports due to the low cost-benefit ratio. However, recent significant flooding events in 2004, 2005, and 2006 have necessitated the need for additional review. The current feasibility study will more closely examine potential measures to mitigate flood risk as well as provide for some ecosystem restoration options. Conceptual options to reduce flooding risk and improve environmental conditions could include:

Structural-

- Removal or modification of man-made stream flow obstructions (bridges, roads, under-sized hydraulic structures, etc.)
- Installation rock grade structures to reduce and redirect stream flow
- Construction of protective floodwalls
- Modification of existing floodwall and levee structures
- Modifications to existing storm water detention facilities

Non-structural-

- Realignment of the stream channel to increase channel capacity
- Restoration of the stream channel and riparian areas
- Enhancements of upstream impoundments for storm water detention
- Construction/restoration of wetland and floodplain areas
- Construction of a high flow diversion channel
- Targeted vegetation plantings to reduce erosion

Some of the items above may require a combination of structural and non-structural methods for implementation. Alternatives which include some or all of these options will be evaluated further during the feasibility study phase. Upon stakeholder and Corps review and selection of appropriate options, the Corps will analyze the environmental effects of the project.

Description of the Project Area

The main stem of the Delaware River is the longest free-flowing river east of the Mississippi River. It flows for approximately 360 miles from New York to Delaware Bay. However, some tributaries have been dammed for water supply and flood control. Main tributaries in New York include the East Branch, West Branch, Mongaup, Neversink, and Callicoon. The Little Beaver Kill and Cattail Brook flow through the project site and are tributaries to Willowemoc Creek, which flows into the East Branch.

The Livingston Manor Flood Risk Management and Environmental Restoration Feasibility Study is located within northern Sullivan County, approximately 14 miles northeast from the main stem of the Delaware River and the Pennsylvania border. The Town of Rockland is approximately 100 square miles and is located within a mountainous region comprised of public and private lands in Southeastern New York State. The Catskill Forest Preserve is found within the Catskill Park and itself is comprised of 286,000 acres of State land, designated as "forever wild". State Park facilities within the town include Beaverkill Campground and Mongaup Pond Campground; the mosaic of public park, private, and wild forest lands can be viewed on a map provided by the NYSDEC at http://www.dec.ny.gov/docs/lands_forests_pdf/cpfpmap.pdf. The Catskill Fly Fishing Center and Museum is found in the Hamlet of Livingston Manor. According to the 2000 census, the population in the 3 square mile Hamlet was approximately 1,355 people. Some residents live along the Little Beaver Kill, Cattail Brook, and Willowemoc Creek; however, others have relocated away from these waterways due to the flooding issues. Access to the area is provided by State Route 17 (soon to be designated Interstate 86).

The watershed is primarily forested but does include land uses such as agricultural, residential, and commercial development. Steep slopes limit most development primarily to the valley floors. The project area is approximately 2 miles long, centered on the Hamlet of Livingston Manor. Past land use of the project area includes tanneries, lumber mills, an airfield, and a kosher poultry processing plant. Current activities in the area which might influence project alternatives include a gravel mine and a new residential development. In addition, a bypass of State Route 17 around Parksville is found approximately 4 miles east. Erosion and movement of sediment from the road construction is believed to have caused some siltation in the Little Beaver Kill and its tributaries. In addition, sediment has moved due to flood events.

Renaissance Park is found at the confluence of the Little Beaver Kill, Cattail Brook, and the Willowemoc waterways in Livingston Manor. A pavilion and parking lot are the only facilities at this location in addition to a mowed grass area. Mowing occurs right up to the edge of the stream, which most likely contributes to bank failure. In addition, it removes any potential habitat along the streams.

Previous gravel mining took place adjacent to the Little Beaver Kill in one upstream reach. Flood events caused the stream to move into the gravel pits, which changed stream morphology. The waterway resembles small ponds rather than a free flowing stream. Unstable banks and sparse vegetation have also allowed the stream to move from its original channel to its present location. The lack of riparian vegetation, including trees and shrubs combined with slow, shallow water in the ponds most likely has affected stream temperatures and concomitant aquatic life, although no sampling was completed by the Service. A 2003 Trout Unlimited study documented elevated water temperatures below the gravel mining area.

The region is internationally known for its high quality streams and trout fishery. It has been said that the birthplace of fly fishing occurred on area streams such as the Beaver Kill, Willowemoc, and Neversink River. Economically, recreational fishing in the region is very important to a wide variety of businesses and their employees. In addition, visitors to the area seek recreational opportunities such as hiking, canoeing, bird watching, hunting, and camping in the hills and valleys of the Delaware River watershed. Named to the National Wild and Scenic System in 1978, the Upper Delaware Scenic and Recreational River is the basis for a partnership between the National Park Service, landowners, individuals, and local, State, and Federal governments to protect and promote the river. Trout Unlimited has a strong presence in the region and is committed to working with partners to improve aquatic habitat. They completed the Beaverkill-Willowemoc Watershed Initiative project in 2003 which assesses stream conditions and provides restoration and management recommendations for decision makers (see http://www.nap.usace.army.mil/Projects/livingston_manor/Prior%20Reports/2003%20Jun%20Trout%20Unlimited%20Beaverkill%20Report.pdf).

The reach of the Little Beaver Kill within and adjacent to Livingston Manor has been affected by residential and commercial development, riparian vegetation removal, floodplain encroachment by roads and structures, and point and nonpoint source discharges. Surprisingly, the stream appears to support trout and other fish. Within the Hamlet, the Main Street Bridge substantially constricts the waterway and causes backwater flooding in adjacent areas. Some structures subject to repeated flooding have been purchased and removed but others remain. In addition to removing residential structures within floodplain areas in Livingston Manor, the town is proposing to relocate the outdated sewage treatment plant to a new site on higher ground.

Existing information indicates that large storm events which cause high flows in the Willowemoc result in back water conditions within the Little Beaver Kill and Cattail Brook. Floodplain encroachment, such as the above-mentioned development, along the Little Beaver Kill have reduced storage volumes and increased the amount of water which must pass underneath the bridge. The existing bridge was not constructed to maintain the hydraulic capacity needed during major storm events. Damage has been experienced during large storm events and includes bank scouring, changes to channel morphology, loss of vegetation, water quality and habitat impacts, and flooding of developed areas.

The Federal Emergency Management Agency, U.S. Geological Survey (USGS), Delaware River Basin Commission, Corps, and the states of Pennsylvania, New York, and New Jersey, and others are involved in various studies and projects (at least 32) aimed at analyzing and mitigating flood risk. In addition, the New York City Department of Environmental Protection is evaluating water management options on their reservoir system within the Catskill Mountains. Reports, models, and mapping are becoming available to inform decision makers about options to prevent flooding. However, some studies will not be completed for several years, including the Corps Delaware River Watershed Ecosystem Restoration Project.

One of the things that make the watershed unique is the abundant and diverse habitat types which support animal life. Elevations and soil type play a part in plant species distribution, but disease and anthropogenic disturbance also influence vegetation spatial position. The Catskill Mountains have elevations which range from less than 1,250 feet above sea level (asl) in the valleys to more than 4,000 feet asl on the peaks. Most of the project area is approximately 1,400 feet asl. Nearly 40% of the watershed is protected by inclusion in the Catskills Forest Preserve's "forever wild" status. Widespread logging and acid factory-related cutting during the nineteenth century has resulted in mostly even-aged stands. Invasive plants have changed the character and composition of some vegetation communities. The area landscape consists mostly of northern hardwood forest with species such as American beech (*Fagus grandifolia*), paper birch (*Betula papyrifera*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), black cherry (*Prunus serotina*), quaking aspen (*Populus tremuloides*), eastern hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*), mixed oaks (*Quercus spp.),* black willow (*Salix nigra*), and American sycamore (*Platanus occidentalis*).

Understory woody plants may include witch hazel (*Hamamelis virginiana*), striped maple (*Acer pensylvanicum*), dogwood (*Cornus spp.*), nannyberry (*Viburnum lentago*), serviceberry (*Amelanchier canadensis*), American hornbeam (*Carpinus caroliniana*), and sumac (*Rhus spp.*) among others. Many species of herbaceous plants such as wildflowers, grasses, sedges, and ferns are found in the project area as well. These are found in the former airfield, former kosher poultry processing plant, and in riparian areas.

Wildlife species found in the region are based on the various habitat types present. Birds are found at all elevations and some, like the Bicknell's thrush (*Catharus bicknelli*), are associated with habitat in higher elevations. The project area is located near the Upper Delaware River, Pepacton Reservoir and Catskill Peaks Important Bird Areas, as designated by the Audubon Society. Raptors are common during migration but concentrations are not high compared to other areas of the State (hawk watch sites are found near Oneonta and Port Jervis). However, the Delaware River is an important wintering area for bald eagles (*Haliaeetus leucocephalus*). Other raptors expected to be found in the area include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), northern goshawk (*Accipiter gentilis*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), great horned owl (*Bubo virginianus*), barred owl (*Strix varia*), and the eastern screech owl (*Megascops asio*).

More than 200 species of birds have been documented in the Catskills such as dark-eyed junco (*Junco hyemalis*), warblers such as black and white (*Mniotilta varia*), black-throated blue (*Dendroica caerulescens*), black-throated green (*Dendroica virens*), blackburnian (*Dendroica fusca*), mourning (*Oporornis philadelphia*), yellow-rumped (*Dendroica coronata*), Canada (*Wilsonia canadensis*), and yellow (*Dendroica petechia*). In addition, song sparrow (*Melospiza melodia*), eastern kingbird (*Tyrannus tyrannus*), eastern phoebe (*Sayornis phoebe*), mourning dove (*Zenaida macroura*), least flycatcher (*Empidonax minimus*), red-winged blackbird (*Agelaius phoeniceus*), common grackle (*Quiscalus quiscula*), common yellowthroat (*Geothlypis trichas*), wood thrush (*Hylocichla mustelina*), great blue heron (*Ardea herodias*), black-capped chickadee (*Poecile atricapillus*), winter wren (*Troglodytes troglodytes*), golden-crowned kinglet (*Regulus satrapa*), hermit thrush (*Catharus guttatus*), solitary vireo (*Vireo solatarius*), Canada goose (*Branta canadensis*), wood duck (*Aix sponsa*), mallard (*Anas platyrhynchos*), American black duck (*Anas rubripes*), hooded merganser (*Lophodytes cucullatus*), and common merganser (*Mergus merganser)* can be expected to be found in the project area.

Mammals are common in the Catskills and a few are restricted to the large tracts of forest habitat that remain there. White-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus*), coyote (*Canis latrans*), red (*Vulpes vulpes*) and gray (*Urocyon cinereoargenteus*) fox, river otter (*Lontra canadensis*), bobcat (*Lynx rufus*), beaver (*Castor canadensis*), long-tailed weasel (*Mustela frenata*), mink (*Mustela vison*), woodchuck (*Marmota monax*), eastern chipmunk (*Tamias striatus*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), and the opossum (*Didelphis virginiana*) are all found in this region. Various types of moles, like the eastern mole (*Scalopus aquaticus*) and the star-nosed mole (*Condylura cristata*), inhabit this section of the

State as do voles, like the meadow vole (*Microtus pennsylvanicus*) and the woodland vole (*Microtus pinetorum*). Red squirrels (*Tamiasciurus hudsonicus*) and gray squirrels (*Sciurus carolinensis*) are commonly seen and there are no less than four species of shrews (Soricidae spp.) found in the Catskills. Types of mice, like the white-footed mouse (*Peromyscus leucopus*) and the deer mouse (*Peromyscus maniculatus*), are common in this combination of forests, fields, and urban areas. Other smaller mammals found in the Catskills are the eastern cottontail rabbit (*Sylvilagus floridanus*), little brown bat (*Myotis lucifugis*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and silvered-haired bat (*Lasionycteris noctivagans*). The eastern porcupine (*Erethizon dorsatum*) is also an inhabitant of the area.

Common reptiles and amphibians of the Catskills include the timber rattlesnake (*Crotalus horridus*), northern copperhead (*Agkistrodon contortrix*), eastern milk snake (*Lampropeltis triangulum*), smooth green snake (*Liochlorophis vernalis*), northern ringneck snake (*Diadophis punctatus*), common garter snake (*Thamnophis sirtalis*), and the northern redbelly snake (*Storeria occipitomaculata*). Turtles, like the snapping turtle (*Chelydra serpentina*), painted turtle (*Chrysemys picta*), and the eastern box turtle (*Terrapene carolina*) are found here. Northern spring peeper (*Pseudacris crucifer*), bullfrog (*Rana catesbeiana*), gray tree frog (*Hyla versicolor*), green frog (*Rana clamitans*), wood frog (*Rana sylvatica*), northern leopard frog (*Rana pipiens*), pickerel frog (*Rana palustris*), eastern American toad (*Bufo americanus*), red-spotted newt (*Notophthalmus viridescens*), spotted salamander (*Ambystoma maculatum*), northern dusky salamander (*Desmognathus fuscus*), northern redback salamander (*Plethodon cinereus*), northern spring salamander (*Gyrinophilus porphyriticus*), and the northern two-lined salamander (*Eurycea bislineata*) are found in the Catskills region.

Aquatic organisms found in Catskill streams include invertebrates, mollusks, and fish. Common fish species include slimy sculpin (*Cottus cognatus*), rock bass (*Ambloplites rupestris*), smallmouth bass (*Micropterus dolomieu*), pumpkinseed (*Lepomis gibbosus*), brown bullhead (*Ameiurus nebulosus*), creek chub (*Semotilus atromaculatus*), fall fish (*Semotilus corporalis*), longnose dace (*Rhinichthys cataractae*), common shiner (*Luxilus cornutus*), fathead minnow (*Pimephales promelas*), American shad (*Alosa sapidissima*), American eel (*Anguilla rostrata*), and white sucker (*Catostomus commersoni*).

Because of the ecological and economic importance of salmonids to the region, the following project-specific information is provided on these species. Three species of trout are found in the Delaware River system including brook (*Salvelinus fontinalis*), rainbow (*Oncorhynchus mykiss*), and brown (*Salmo trutta*). A 2000 creel survey by the NYSDEC on the Beaver Kill and its tributaries, including 5.4 miles of the Little Beaver Kill and 4.2 miles of the Willowemoc, revealed brook, brown, and rainbow trout inhabiting most, but not all, tributaries. Maximum summer water temperatures (>70 degrees F) in shallow streams appear to be the limiting factor for trout populations. Very little fishing activity was observed on the Little Beaver Kill during the creel survey, although the stream has been annually stocked with over 2,000 brown trout. The Willowemoc has been annually stocked with over 18,000 brown trout in past years. Wild populations of trout are also present. Public fishing rights have been secured by the NYSDEC on both the Little Beaver Kill and Willowemoc, but access is not continuous nor granted for both sides of the waterways within the project area.

While the watershed is diverse in native biota, many species of non-native invasive plants and animals have also become established, especially along waterways. Japanese knotweed (*Polygonum cuspidatum*), garlic mustard (*Alliaria petiolata*), common reed (*Phragmites australis*), and purple loosestrife (*Lythrum salicaria*) are common plants. Didymo or *Didymosphenia geminata* is a noxious slimy plant also known as rock snot. This invasive species has been found in Catskill streams, to the dismay of anglers. Also present in the watershed is zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena bugensis*), finger nail clam (*Sphaeracea spp.*), mud snail (*Bithynia tentaculata*), flathead catfish (*Pylodictis olivaris*), and hemlock wooly adelgid (*Adelges tsugae*). Japanese knotweed appeared to be the most ubiquitous invasive species in the project area.

A review of data on Federally-listed species protected pursuant to the ESA reveals extant and extirpated populations of northern monkshood (*Aconitum noveboracense*), a threatened species in the region. While no records were found for the project area, occurrences have been reported within 5 miles. This includes a 1983 record south east of the project site and another record approximately 5 miles south, found in 1989, but neither population was found during surveys in 2004. The northern monkshood is also a State-listed threatened species. Another State-listed species is the ensiform rush (*Juncus ensifolius*). This endangered species, like the northern monkshood, has been found in the region but not the project area. A survey in 2004 found this species less than 5 miles from the project site. While no longer Federally-listed, the State-listed endangered bald eagle has been observed in the project area. In addition, several bald eagle nests are found in the region and are at least 10 miles from the project site. Eagle foraging along larger streams and rivers is becoming more common in the Catskills.

Potential Impacts from the Proposed Project

Since project alternatives have not yet been developed, the potential impacts to wildlife are very speculative at this point in time. No details on the extent of potential impacts are available for this report. However, a few general comments can be provided. Much of the project area has been disturbed in the past from various forms of anthropogenic activities such as residential and commercial development, agriculture, industrial activity, road construction, and gravel mining. Each of these activities has taken a cumulative toll on the plant and animal communities in the area. Species adaptable to human disturbance exist, but unique species also occur on the fringes (i.e. wild trout populations and bald eagle nesting in surrounding areas). Many generalist species are expected to occur in the project area, particularly in the developed urban area of Livingston Manor. In the project area, the aquatic environment and associated riparian areas appear to provide the most important habitat for fish and wildlife, and special consideration should be given to these areas during project design.

Any construction in waterways has the potential to affect sensitive aquatic organisms, both in the project area and downstream. Potential impacts include direct habitat loss, degradation of habitat quality, loss of habitat patches and connectivity, changes in water chemistry and temperature, and cumulative impacts to habitat and populations. Once detail design plans are available, the Corps should evaluate the project in light of these issues.

Potential negative impacts from structural options include the conversion of habitat to non-habitat, such as with the construction of floodwalls and concrete-lined channels in riparian areas. Conversion of one habitat type to another is also a possible impact, such as when riparian vegetation is removed and replaced with levees or rock riprap. Habitat degradation is possible during construction in streams and would include erosion, siltation, and change in flow patterns (i.e. isolation of the stream from the floodplain or installation of a dam). The spread of invasive species during construction or creating suitable conditions for these species is a serious concern (this may be applicable to both structural and non-structural options). Movement of earth and equipment could allow infiltration of new areas. Wildlife most likely affected by structural options would be those species which are least mobile or limited in range.

While there may be negative effects to fish and wildlife and their habitat as a result of construction activities, the effects can be minimized with proper planning. Further, if appropriate restoration measures are selected to improve habitat conditions, there should be a net overall benefit to the environment. Potential beneficial impacts include the removal of stream flow obstructions which restore suitable habitat conditions for native flora and fauna, the creation of habitat for a particular species or suite of species, and an increase in fish and wildlife diversity. A specific example might include the restoration of a stream channel where multiple habitat types are provided (pools and riffles) and water temperatures are lowered for cold water species, such as trout. In most cases, limiting the amount of vegetation removal and earth disturbance will minimize negative impacts to wildlife and habitat.

Potential negative impacts from non-structural options may include destabilization of a streambed during the realignment of a stream channel, the establishment of an invasive species while attempting to restore riparian areas, or changing flow patterns from the construction of floodplain areas or high flow diversion channels. One non-structural option mentioned above, enhancement of upstream impoundments, may have adverse effects on vegetation communities adjacent to and within the impoundments if water levels are changed from their existing levels.

Like structural options, non-structural options should provide a net environmental benefit. Potential benefits of non-structural options include increasing the amount of habitat available to fish and wildlife, improving the quality of existing habitat, and restoring degraded habitat. As mentioned above, this can be accomplished through measures such as restoring riparian area habitat and function (i.e. floodplains), planting vegetation to reduce erosion and siltation, restoring stream channel dimensions, and construction of wetlands.

Service Recommendations

Prior to commencement of project design, we recommend the Corps review existing information regarding the watershed and any pertinent studies of natural resources. This should include Delaware River Management Plans, information from completed and ongoing studies being prepared by others (such as the Delaware River Basin Commission [at least 10 studies], cooperating states, state and federal agencies, and industry), and local planning documents. Stakeholders engaged in local issues, such as the Upper Delaware Council, Trout Unlimited, Upper Delaware Preservation Coalition, National Park Service, and others, should be invited to provide input on project plans.

Preliminary investigations by the Corps included review of impoundments and their management within the sub watershed upstream of Livingston Manor. We encourage the Corps to consider the implications of water management, including but not limited to, the effects of reservoir draw downs on aquatic habitat, lifecycles of organisms dependent upon the aquatic ecosystem, and potential changes in downstream habitat as a result of releases. The Corps environmental documents should provide information on the positive and negative impacts of proposed water management changes.

Our recommendations for the structural and non-structural options of this project provided by the Corps to date are aimed at limiting impacts while increasing habitat value. We suggest the Corps consider additional studies of the resources found in the project area. For example, fish and aquatic organism surveys of the three streams potentially affected by the project may assist in stream restoration design. This could include benthic kick samples, and electro-fishing or netting of fish. In areas where water levels at impoundments may change, surveys of existing vegetation communities should be completed to understand any potential impacts. These areas, in particular, should be surveyed for rare plant species that may be present. Areas currently infested with invasive species should be documented so that the Corps can develop an adequate plan to prevent the spread and proliferation of any harmful organisms. In general, the project area habitat types should be mapped and characterized for planning purposes. If studies are conducted in 2011, spring avian migration and breeding bird studies can be completed. Water quality samples can be collected at various locations in the project area to determine point source pollution issues. At a minimum, we recommend ground water and surface water testing (as well as soil testing) at the former kosher poultry processing plant site for potential contaminants, especially if earth disturbance is expected in this area. Non-point pollution sources, such as parking lots, roads, and rooftops, should be evaluated and considered in the project design. Similarly, areas of soil erosion, such as along stream banks, should be inventoried and remediation measures developed (taking into consideration the potential for flood waters). Baseline resource information will allow the Corps to compare any proposed plans with existing conditions and determine potential net environmental benefits.

To increase the habitat value where structural measures are warranted, the Corps should consider the use of bioengineering techniques. Bioengineering is the use of living plant material to perform some engineering function, such as soil stabilization. Soil bioengineering can be used to treat eroding banks, excess gravel, and unstable slopes, and provides riparian habitat as well as treats problem areas. For example, in areas where the Corps determines that rock is needed to limit erosion and protect stream banks, vegetation, such as willow or dogwood whips, or dormant cuttings, can be placed among the rocks to help stabilize soils and provide a basis for future habitat. In addition to bioengineering techniques, the Corps and its contractors should implement Best Management Practices for construction to minimize environmental impacts. A proper Erosion and Sedimentation Control Plan must be developed to prevent erosion and impacts to water quality. This may include silt fence on land, turbidity curtains in water, and immediate seeding of graded areas, etc.

We recommend project plans include measures which remove hydraulic constrictions (undersized culverts, bridges, roadways, etc.) on area waterways to the extent feasible. Potential sites include culverts along Cattail Brook, the Main Street Bridge in Livingston Manor, and along Lower Covered Bridge Road. We also recommend that floodplain areas be restored where possible, including areas which were previously developed and isolated from streams. This would include sections of the Little Beaver Kill upstream of the Main Street Bridge and adjacent to the former kosher poultry processing plant property. Within floodplain areas, additional flood storage capacity may be possible if wetlands are created and/or restored. Modifications to levees may also be feasible if flooding risks would not increase.

Stream restoration near the old airport should be considered as part of this project. Currently, the Little Beaver Kill flows through two large pits that were excavated for gravel. These pits impact water temperatures and modify habitat conditions. Moving the stream around the pits or reshaping the stream corridor to eliminate these open water areas should be studied further.

Mowing and vegetation removal in riparian areas is strongly discouraged. This will reduce soil erosion and bank sloughing as well as provide habitat and improve water quality. This should be especially considered for Renaissance Park and in residential areas along the Little Beaver Kill. In addition, the Corps should canvass stream banks in the project area and determine which areas are actively eroding. If appropriate, the project plans should include remediation measures at these locations, preferably plantings or plantings in use with bioengineering techniques.

One important measure for the Corps to include in the project plans is the development of an invasive species management plan (ISMP). Such a plan would help to limit the spread of invasive plant and animal species both within the project area and to new areas. The ISMP should include the known invasive species and where they are found in the project area. Information on the species biology and various control measures would be essential to those implementing the ISMP. In addition, the ISMP should provide a monitoring protocol to determine if project activities have increased or decreased the spread of invasive species. Recommendations on invasive species management should be obtained from the local Catskill Regional Invasive Species Partnership.

It is expected that the Corps would want to monitor the success of this restoration project and how it limits flooding damage. If appropriate, we recommend that a stream gauging station be re-established along an area waterway, presumably the Willowemoc. Coordination with the USGS would determine feasibility and utility of this measure. Similarly, we recommend the Corps monitor the project area for wildlife use at least once after project completion. This should be accomplished at least 2 years following construction. In addition, monitoring will identify any areas in need of repair, such as unvegetated soil or eroding banks.

The Corps should explore the potential to increase recreational opportunities in the project area. This could include the construction of a walking trail along waterways, parking areas, or obtaining fishing rights for public access. Coordination with the NYSDEC and local officials would be advised.

Finally, the Corps should consider the potential effects of climate change on local and regional hydrology. The National Oceanic and Atmospheric Administration has predicted that weather patterns will be altered as a result of climate change in New York State in the future. While the overall amount of precipitation is expected to remain about the same as current levels, the intensity of storm events may increase (for more information see http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.). Infrastructure such as roads and bridges may be impacted by these changes. Therefore, design features for this project, such as culvert size and placement, should be viewed with respect to these projected changes. For information on wildlife-related climate change issues, please see our website at: http://www.fws.gov/home/climatechange/strategic_plan.html.

Summary

In summary, the Livingston Manor Flood Risk Management and Environmental Restoration Feasibility Study should be further investigated to identify potential benefits of various flood abatement methods as well as the restoration of important ecological areas. Recent flooding events in the watershed have damaged property and necessitated further review. Which measures to be implemented by the Corps should depend on a number of factors including stakeholder views, watershed modeling, river management plans, existing resources, and net environmental benefit.

We recommend the Corps review existing studies as well as gather additional information about resources within the project area. Project plan development should include restoration of floodplain function by allowing streams to access riparian areas, where appropriate. In addition, stream channel and wetland restoration can be a positive benefit of the project. The use of bioengineering should be implemented for work in and along waterways. Several locations with hydraulic constrictions should be addressed by this project. Riparian vegetation management is a topic for the Corps to consider, including the current practice of removing stream bank vegetation. However, in areas which currently contain invasive plant species, this issue should be approached with caution. Further, project plans should be developed to limit disturbance to the greatest extent practicable to prevent erosion and spread of invasive plants. An ISMP should be mandatory for this project. Any potential recreation opportunities, such as hiking, fishing, or wildlife observation, should be promoted and included in project plans, if feasible. And finally, the project should be monitored to determine the success of implemented measures. Feedback from this monitoring will identify any problem areas as well as document net environmental benefit.

We hope these comments are useful in your project evaluation. We appreciate the opportunity to review and comment on the preliminary project plans. If the Corps would like additional input on this project, please contact our office. If there are any questions regarding this letter, please contact Timothy Sullivan at 607-753-9334.

Sincerely,

David A. Stilwell

David A. Stilwell
Field Supervisor

cc: NYSDEC, New Paltz, NY (B. Drumm)
NYCOE, Watervliet, NY (A. Dangler)

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PHOTOGRAPHS

Photo: U.S. Army Corps of Engineers

View of Willowemoc Creek from left bank facing downstream. Note bank sloughing due to mowing adjacent to stream. Confluence of Cattail Brook is in the background near former water well (pipe in stream).

Photo: U.S. Army Corps of Engineers

View of Willowemoc Creek from Renaissance Park, from left bank facing upstream. Note erosion and sloughing on near bank where mowing occurs and vigorous vegetation growth on the far bank.

Photo: U.S. Army Corps of Engineers

One of several areas of gravel aggradation along the Little Beaver Kill. This area is located upstream of Livingston Manor.

Photo: U.S. Army Corps of Engineers

Floodplain area along the Little Beaver Kill for potential wetland restoration/creation.

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

August 12, 2015

Nicole C. Minnichbach
Cultural Resource Specialist and Tribal Liaison
Philadelphia District Corps of Engineers
100 Penn Square East
Philadelphia 19107

Re: USACE
Flood Damage Reduction/Ecosystem Restoration Feasibility Study
Upper Delaware River Watershed
10PR05703

Dear Ms. Minnichbach:

Thank you for your continued consultation with the State Historic Preservation Office (SHPO). We continue to review this undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Based upon this review, the SHPO finds that the *Draft* Programmatic Agreement for this action is acceptable and that our office will sign it when a final copy is provided. The final agreement will be executed for the NYSHPO by Ruth L. Pierpont, Deputy Commissioner for Historic Preservation/Deputy NYSHPO.

If I can be of any further assistance please do not hesitate to contact me at (518) 268-2166.

Sincerely,

John A. Bonafide
Director,
Technical Preservation Services Bureau

**New York State Office of Parks,
Recreation and Historic Preservation**

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

September 17, 2010

Minas M.. Arabatzis
Planning Division, Philadelphia Division. USACOE
100 Penn Square East
Philadelphia, 19107

Re: CORPS
Flood Damage Reduction/Ecosystem Restoration
Feasibility Study
Upper Delaware River Watershed LIVINGSTON
MANOR, Sullivan County
10PR05703

Dear Mr. Arabatzis:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon our review of the document *Phase IA Historic Resoucrces Investigation Technical Report, Livingston Manor, Sullivan County, New York*, prepared by A.D. Marble and Company in March 2010, SHPO concurs with the reports recommendations regarding archaeological field testing and the need for additional research on historic architectural resources.

We look forward to continued consultation on this project as you move forward with your efforts. Please be sure to refer to the OPRHP Project Review (PR) number noted above on all future correspondence regarding this project. Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA. PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch

SUBJECT: NYSHPO Project # 10PR05703
Livingston Manor Flood Risk Management and Ecosystem Restoration Feasibility Study, Upper Delaware River Watershed, Livingston Manor, Sullivan County, New York

Ruth Pierpont
Deputy SHPO
New York State Historic Preservation Office
Peebles Island Resources Center
P.O. Box 189
Waterford, NY 12188-0189

Dear Ms Pierpont:

The U.S. Army Corps of Engineers, Philadelphia District (USACE), in consultation with the Tribes and the non-federal sponsor, agree with the development and execution of a Programmatic Agreement (PA) in accordance with 36 CFR § 800.6 and § 800.14 (b)(1)(ii) to comply with Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C 306108) (NHPA) for the above referenced project. We have enclosed for your review a draft Programmatic Agreement for the above referenced project (Enclosure 1).

The purpose of the Livingston Manor Feasibility Study was to provide recommendations for future actions and programs to investigate potential flood risk management solutions and identify ecosystem restoration opportunities that could be implemented within the study area. The flood risk management and restoration opportunities included alternative solutions to reduce the recurrence of frequent flooding and to restore and/or improve degraded fish and wildlife habitat within the community of Livingston Manor. Restoration opportunities that contributed to the reduction of nuisance flooding were considered a high priority for this study since these opportunities could also provide incidental flood damage reduction in addition to ecosystem restoration benefits.

The Livingston Manor Study was authorized through Resolution #2495 adopted by the Committee on Transportation and Infrastructure of the U.S. House of Representatives on May 9, 1996. Pursuant to the Congressional resolution on the Upper Delaware River Watershed, the District completed an Expedited Reconnaissance Report in July 1997 (amended in February 2008) to determine Federal interest in the areas of flood control, ecosystem restoration, water quality control, comprehensive watershed management and other allied purposes.

The New York Department of Environmental Conservation (NYDEC), as the non-Federal Sponsor, and the U.S. Army Corps of Engineers (Corps) initiated the feasibility phase of the study on May 26, 2009. The study work began in September 2009 when the non-federal cost share funds were received by the Corps. An interim feasibility report was completed in May 2013 and shared with NYSDEC and other interested partners. In addition, the interim feasibility report was presented to the public at a meeting held in May 2013. The feasibility phase study cost was shared equally between the Corps and the Sponsor.

A Phase IA cultural resource investigation was conducted for the feasibility study. The findings of this investigation were coordinated with your office in a report titled, *Phase IA Historic Resources Investigation Technical Report, Livingston Manor, Sullivan County, New York* prepared by A.D. Marble and Company dated March 2010 (Enclosure 2). In a letter dated September 17, 2010, your office concurred with the recommendations that additional above- and below-ground investigations may be required depending on the selected alternative (Enclosure 3).

A wide range of alternatives were formulated to address the planning objectives. Findings relative to these alternatives are as follows: based on an evaluation of the various alternatives, including the environmental impacts, design elements, estimated costs, and flood reduction. The Tentatively Selected Plan (TSP) is composed of widening of the Little Beaver Kill below the Main Street Bridge and stabilizing the stream upstream of the bridge to the old airport property. This plan has measurable flood damage reduction benefits, as well as incidental ecosystem restoration benefits.

This project is ideal for the Continuing Authorities Program (CAP), Section 205 authority and would fit within all parameters (<$10 million) of this authority. In addition, the non-federal sponsor, the New York State Department of Environmental Conservation (NYSDEC) is fully supportive of the project and the conversion of the project from the GI program to the CAP program. In addition, there is Congressional support for this project and conversion. A December 2014 meeting was held on site with Congressman Chris Gibson, NYSDEC, and all other interested partners to update the team on the project status and tentative schedule.

The Area of Potential Effect (APE) has yet to be formally defined pursuant to 36 CFR § 800.4(a)(1) and 36 CFR § 800.16(d); however, it would include, but may not be limited to, the primary features of the TSP summarized below:

- ✓ Widening of the Little Beaver Kill floodplain below Main Street Bridge. Will lower the water surface elevation of water in the downtown area during storms below the ACE 10% ACE Floodplain (10-year storm).
- ✓ Provide stabilization of a one mile reach of stream to allow for appropriate sediment transport in the stream through the downtown area. This is necessary to avoid sediment build up in the stream in the downtown and subsequent flooding from that.

- ✓ Creates approximately 20 acres of wetland upstream of downtown Livingston Manor at the old airport site, which will result in incidental benefits for the project in the forms of flood storage and ecosystem restoration.
- ✓ The non-federal sponsor and local community have expressed an interest in including a recreational feature (pedestrian trail) in the upstream project reach at the old airport property.
- ✓ A key component of the upstream section of the project will be the control of Japanese knotweed (*Fallopia japonica***)**, an invasive plant, found throughout the project area.

In order to demonstrate compliance with Section 106, while allowing for the completion of the Section 106 process under the CAP authority, the USACE, the Tribes and the non-federal sponsor, agree with the development and execution of a Programmatic Agreement in accordance with 36 CFR § 800.6 and § 800.14 (b)(1)(ii).

We request your review and comment on the Programmatic Agreement for the proposed federal undertaking. If you have any questions regarding the proposed project or the document please contact Nicole Cooper Minnichbach, Cultural Resource Specialist and Tribal Liaison via email nicole.c.minnichbach@usace.army.mil, or by phone (215) 656-6556.

Sincerely,

Peter R. Blum P.E.
Chief, Planning Division

Enclosures

Figure 1. Floodway Expansion Pr4oject Area – Tentatively Selected Plan

Figure 2. Overview from Main St. Bridge Upstream to Airport Property

Delaware Tribe Historic Preservation Representatives
Department of Anthropology
Rm. 207, Gladfelter Hall
Temple University
1115 W. Polett Walk
Philadelphia, PA 19122
temple@delawaretribe.org

August 10, 2015
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107
ATT: Nicole Cooper Minnichbach

RE: NYSHPO Project #10PR05703 Livingston Manor Flood Risk Management and Ecosystem Restoration

Dear Ms. Cooper Minnichbach,

Thank you for informing the Delaware Tribe of the above referenced project. The Delaware Tribe is committed to protecting historic sites important to our tribal heritage, culture and religion. We concur with the findings in the Phase 1A conducted by A.D. Marble. We look forward to reviewing the additional field work associated with this project.

We also request a modification to the Programmatic Agreement that includes the Delaware Tribes Inadvertant Discovery Policy. See below.

Delaware Tribe of Indians
Policy for
Treatment and Disposition of Human Remains and Cultural Items That May be Discovered Inadvertently during Planned Activities

Purpose

The purpose of this policy is to describe the procedures that will be followed by all federal agencies, in the event there is an inadvertent discovery of human remains.

Treatment and Disposition of Human Remains and Cultural Items

1. The federal agency shall contact the Delaware Tribe of Indians' headquarters at 918-337-6590 or the Delaware Tribe Historic Preservation Representatives at 610-761-7452, as soon as possible, but no later than three (3) days, after the discovery.

2. Place tobacco with the remains and funeral objects.

3. Cover remains and funeral objects with a natural fiber cloth such as cotton or muslin when possible.

4. No photographs are to be taken.

5. The preferred treatment of inadvertently discovered human remains and cultural items is to leave human remains and cultural items in-situ and protect them from further disturbance.

6. No destructive "in-field" documentation of the remains and cultural items will be carried out in consultation with the Tribe, who may stipulate the appropriateness of certain methods of documentation.

7.If the remains and cultural items are left in-situ, no disposition takes place and the requirements of 43 CFR 10 Section 10.4-10.6 will have been fulfilled.

8. The specific locations of discovery shall be withheld from disclosure (with exception of local law officials and tribal officials as described above) and protected to the fullest extent by federal law.

9. If remains and funeral objects are to be removed from the site consultation will begin between the Delaware Tribe of Indians and the federal agency.

If you have any questions, feel free to contact this office by phone at (610) 761-7452 or by e-mail at temple@delawaretribe.org.

Sincerely,

Susan Bachor
Delaware Tribe Historic Preservation Representative
Department of Anthropology
RM. 207, Gladfelter Hall
Temple University
1115 W. Polett Walk
Philadephia, PA 19122
temple@delawaretribe.org
610-761-7452

St. Regis Mohawk Tribe

June 25, 2015

Nicole Cooper-Minnichbach
Department of the Army
Philadelphia USACE
Wannamaker Building, 100 Penn Square East
Philadelphia, Penns

Re: Livingston Manor

She:kon Ms. Robertson,

This letter is in response to a request for a Section 106 consultation between your agency and the Saint Regis Mohawk Tribe. The following project(s) that you requested my office to consult on is considered being of "No Effect" in regards to cultural properties of concern to the Saint Regis Mohawk Tribe.

Livingston Manor, Sullivan County, NY

The St. Regis Mohawk Tribe requests to be immediately contacted in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the scope of this project.

Should you or your office have any further questions in regards to these comments please feel free to contact my office at your earliest convenience.

Nia:wen,

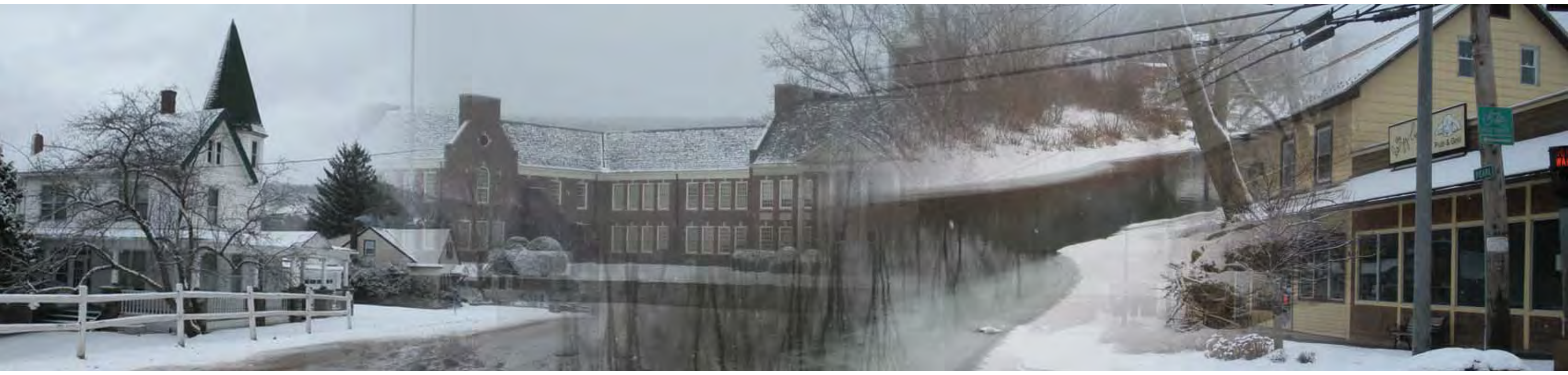
Arnold L Printup III

Arnold L Printup
Saint Regis Mohawk Tribe
Tribal Historic Preservation Office
1(518)358-2272 Ext. 2163

Helping Build A Better Tomorrow

412 State Route 37
Akwesasne, New York 13655
Phone: 518-358-2272

PHASE IA HISTORIC RESOURCES INVESTIGATIONS TECHNICAL REPORT
Livingston Manor



Sullivan County, New York

Prepared for:

Philadelphia District Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107

Prepared by:

A.D. Marble & Company
375 East Elm Street
Suite 200
Conshohocken, Pennsylvania 19428

March 2010

DRAFT

PHASE IA HISTORIC RESOURCES INVESTIGATIONS TECHNICAL REPORT

Livingston Manor
Sullivan County, New York

Prepared for:

Philadelphia District Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107

Prepared by:

A.D. Marble & Company
375 East Elm Street
Suite 200
Conshohocken, Pennsylvania 19428

March 2010

TABLE OF CONTENTS

1.0 INTRODUCTION

1.0 INTRODUCTION

In February 2010, A.D. Marble & Company cultural resource professionals conducted Phase IA Historic Resources Investigations to document known and expected architectural and archaeological resources within the Area of Potential Effect (APE) for the ten potential alternatives for flood damage reduction and ecosystem restoration in the hamlet of Livingston Manor, Sullivan County, New York (Figure 1). The focus of the investigation was to identify those resources listed, eligible, or potentially eligible for listing in the National Register of Historic Places (National Register). This Technical Report provides a methodology and summary of results of the Phase IA Investigation as well as recommendations for future work. The ten alternatives investigated are as follows:

- Area 1: Lower Covered Bridge Road
- Area 2: High Flow Channel Area
- Area 3: Forested Wetland Restoration
- Area 4: Northern Levee Modification Area
- Area 5: Southern Levee Modification Area
- Area 6: Realign Confluence Area
- Area 7: Bridge Expansion Area
- Area 8: Floodwall/Floodplain/Riparian Restoration Area
- Area 9: Dry Lake Bed/Wetland Complex Stream Restoration Area
- Area 10: Remove Culvert Restrictions/Rock Grade Structure Installation

2.0 HISTORIC ARCHITECTURE

2.0 HISTORIC ARCHITECTURE

The Phase IA Historic Resources Investigation for historic architecture began with the delineation of the APE for the ten potential alternatives. Background research was then conducted to identify previously documented resources and assist in the evaluation of historic or architectural significance of each of the properties. A reconnaissance survey followed. The cut-off date for the historic architecture investigation is 1960 and is based on the 50-year age consideration for listing in the National Register.

2.1 Area of Potential Effect

The architectural APE for this project is defined as the area in which the alternatives could have a direct or indirect (visual) impact on aboveground resources. The APE generally encompasses the tax parcels immediately adjacent to each of the ten proposed alternatives. The nature of the work being performed would typically not result in indirect effects except in the case of the removal or alteration of structures, such as the expansion of the Main Street Bridge. Field survey, aerial photographs, United States Geological Survey (USGS) topographical maps, and tax parcel mapping assisted in determining which properties were located within the APE for each alternative. The architectural APE includes properties fronting on Main Street, Pearl Street, Pleasant Street, River Street, Covered Bridge Road, and School Street (Figure 2).

2.2 Background Research

Background research was conducted to identify previously documented properties and architectural resources that meet the 50-year age consideration for listing in the National Register and to provide a context for the preliminary evaluation of properties within the APE. Background research conducted to date includes review of New York State Historic Preservation Office (NY SHPO) files in Watertown, New York, and an examination of the data available from the Sullivan County Tax Assessment Office, the Sullivan County Historical Society, and Livingston Manor online network.

Cultural resource survey reports, such as Phase I and II investigations for the Proposed Livingston Manor Senior Apartments (BTK Associates 2006, 2007) and the Marcy South 345 kV Catskill Bypass Transmission Line (Hartgen Archaeological Associates 1986), and historic architecture survey forms, including the Livingston Manor Central School and 48 Pearl Street, were examined to identify known resources within the APE and provide additional context for the study. Historic and current maps, atlases, aerial photographs, local histories, and photographs available online assisted in the determination of age and location of resources present within the study area as well as physical changes to the landscape over time. Historic maps consulted include USGS topographic maps from 1923; Sanborn Fire Insurance maps from 1892, 1904, 1924, and 1936; and the 1875 Beers Atlas of Purvis (present-day Livingston Manor). Potential construction dates were estimated by examining current and historic mapping, tax parcel data, and a field examination of the resources in the study area.

2.3 Reconnaissance Survey

An A.D. Marble & Company architectural historian performed a reconnaissance survey to 1) confirm the limits of the historic architecture APE, 2) identify aboveground resources constructed by 1960 (50 years from the present), and 3) provide preliminary assessments of integrity and significance. During the field survey, the presence and integrity of previously documented properties was confirmed. Existing conditions were documented with photographs and field mapping. Properties present by 1960 were identified through an examination of historic and current mapping, as well as architectural styles and construction methods typical of each time period. Each property was assigned a survey number and is identified in Figure 2. The level of integrity of each property was determined based on the extent of non-original materials and alterations. The results of the reconnaissance survey and background research were used to evaluate the level of integrity and significance of each property and provide preliminary recommendations of National Register eligibility (Table 1).

2.3.1 Historic Architecture Findings

As shown in Figure 2, the project area includes a combination of late-nineteenth- and early-twentieth-century residential and commercial buildings within and surrounding the hamlet of Livingston Manor in the Town of Rockland, Sullivan County. Rockland was formed from the Town of Neversink in 1809. Named for the rugged terrain and rocky soil, Rockland was primarily an area of farming, lumbering, and tanning in the late eighteenth and nineteenth

Table 1. Historic Architecture Survey Results.

Survey Number	Alternative	Address	Historic Name	Approximate Date of Construction	Previous Documentation	Level of Integrity	Preliminary NR Eligibility Recommendation	Recommendations for Future Work
A001	1	143 Covered Bridge Rd		1920	None	High	Not Eligible—Lack of Significance	Site form
A002	3	102 School St		1980	None	Demolished	Not Eligible—Lack of Significance and Integrity	None
A003	2; 4	19 School St	Livingston Manor Central School	1938	Survey Form—NR Eligible	High	Eligible—Retains Significance and Integrity	Historic property documentation and boundary delineation, Historic District Documentation
A004	5	64 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A005	5	54 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A006	5	52 River St		1890	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A007	5	42 River St		1900	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A008	5	40 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A009	5	38 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A010	5	36 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A011	5	34 River St		1896	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A012	6, 10	River St, Creamery Rd; 100 Main St	Lumber Yard	1910	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A013	6	18 River St		1899	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A014	6	10 River St		1900	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A015	6	8 River St		1920	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A016	6, 7	60 Main St		1945	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A017	6, 7	54 Main St		1890	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A018	6, 7	52 Main St		1890	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A019	6, 7	48 Main St	Catskill Art Society Center	1890	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A020	7	46 Main St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A021	7	46 Main St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A022	7	42 Main St		1890	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A023	7	40 Main St		1910	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A024	7	62 Main St		1890	None	Low	Potentially Contributing to Historic District	Historic District Documentation
A025	7	66 Main St		1900	None	High	Potentially Contributing to Historic District	Historic District Documentation
A026	7, 8	2 Pearl St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A027	7	9 Pearl St		1920	None	Low	Potentially Contributing to Historic District	Historic District Documentation
A028	7	49 Main St		1950	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A029	7	47 Main St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A030	7, 8	61 Main St		1890	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A031	7	65 Main St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A032	7	67 Main St		1900	None	Moderate	Potentially Contributing to Historic District	Historic District Documentation
A033	8	7 Pleasant St	Barn, Keiser Equipment	1883	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A034	8	11 Pleasant St		1898	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A035	8	17 Pleasant St		1898	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A036	8	21 Pleasant St		1898	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A037	8	6 Pearl St		1930	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A038	8	8 Pearl St	Town Crier Bldg	1910	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A039	8	12 Pearl St	R.E. Shaver Inc	1930	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A040	8	16 Pearl St		1900	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A041	8	20 Pearl St	American Legion	1940	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation

Table 1 Historic Architecture Survey Results (cont).

Survey Number	Alternative	Address	Historic Name	Approximate Date of Construction	Previous Documentation	Level of Integrity	Preliminary NR Eligibility Recommendation	Recommendations for Future Work
A042	8	26 Pearl St		1940	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A043	8	28 Pearl St		1960	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A044	8	32 Pearl St		1947	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A045	8	38 Pearl St		1900	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A046	8	42 Pearl St		1936	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A047	8	48 Pearl St	Queen Anne House	1880	Survey Form	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A048	8	58 Pearl St		1940	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A049	8	551 Old Route 17		1889	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A050	8	549 Old Route 17		1950	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A051	9	493 Old Route 17		1930	None	Low	Not Eligible—Lack of Significance and Integrity	Site form
A052	9	489 Old Route 17		1912	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form
A053	9	477 Old Route 17	Manor Motors	1948	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form
A054	9	431 Old Route 17	Former lumber yard	1955	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form
A055	9	N/A	Former Railroad ROW	1880	Survey Form	Low	Not Eligible—Lack of Significance and Integrity	Linear Historic District Documentation
A056	10	Riverside Drive	Public buildings	1940	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A057	10	108 Main St		1900	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A058	10	4 Willoughby St		1920	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A059	10	2 Willoughby St		1920	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A060	10	8 Finch St		1900	None	Low	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A061	10	5 Finch St		1870	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A062	10	118 Main St		1900	None	High	Not Eligible—Lack of Significance	Site form and/or Historic District Documentation
A063	10	120 Main St		1900	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A064	10	124 Main St		1900	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A065	10	4 Hoos Rd		1940	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A066	10	168 Main St		1955	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A067	10	38 Scutter Rd		1900	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A068	10	186 Main St		1960	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A069	10	5 Old Co Rte 149		1920	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A070	10	13 Old Co Rte 149		1940	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A071	10	7 Scutter Rd		1960	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A072	10	1 Scutter Rd		1960	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation
A073	10	111 Main St		1910	None	Moderate	Not Eligible—Lack of Significance and Integrity	Site form and/or Historic District Documentation

centuries. Livingston Manor was originally known as Purvis and began as a small mining settlement at the junction of the Willowemoc Creek and Little Beaver Kill in the mid-nineteenth century. The opening of the New York, Oswego, and Midland Railroad (later the New York, Ontario, and Western) in 1880, which connected the Catskill region to the Hudson River valley, brought an influx of tourists and had a significant impact on the growth of the community. The Morsston Depot was established across Willowemoc Creek from Purvis. In 1882, the hamlets of Purvis and Morsston Depot were combined to form Livingston Manor, which was named in honor of Edward Livingston, a member of the first family to settle the area who was a generous benefactor of the community. Steady outward growth of Livingston Manor continued into the mid-twentieth century, resulting in older buildings near the center of town and newer buildings on the edges of the community. While some buildings have been demolished and modern mobile homes are scattered throughout town, there is little modern infill within downtown Livingston Manor.

2.3.2 Previous Documentation

Only one known resource previously listed in or determined eligible for listing in the National Register is located in the historic architecture APE. The Livingston Manor Central School (A003), located on the north bank of Willowemoc Creek, was previously determined eligible for listing in the National Register. Only limited documentation on a survey form has been completed to date, and no boundary has been delineated for the Livingston Manor Central School.

Two additional properties have been documented on inventory or site forms, although to date no determinations of eligibility have been made by the NY SHPO. The former New York, Ontario & Western Railroad (A055) was previously documented on a site form and may constitute a National Register-eligible linear historic district. The dwelling at 48 Pearl Street (A047) was previously documented on a building inventory form and may be eligible for architectural significance as a well-preserved local example of the Queen Anne style.

2.3.3 Newly Identified Properties

As the hamlet of Livingston Manor is composed of nineteenth- and early-twentieth-century properties centered at the confluence of three waterways, the APE includes numerous properties that meet the 50-year age consideration for the National Register. Seventy-three (73) properties within the APE were 50 years in age or older; 70 of these properties have no previous documentation (Table 1). The 70 properties primarily represent late-nineteenth- and early- to mid-twentieth-century residential buildings within Livingston Manor, most of which retain moderate integrity. The APE also includes a few contemporary commercial structures in the central business district of Livingston Manor that retain moderate integrity. The concentration of nineteenth- and early-twentieth-century architecture in downtown Livingston Manor, which is centered at Main and Pearl streets, illustrates the historic development of the hamlet and may comprise a historic district. There is no previous documentation of the composition or boundaries of a potential historic district.

Many of the previously unevaluated resources in the APE appear to lack integrity due to significant alterations and additions or loss of historic materials and design elements. Generally, the loss of at least three of the five major architectural elements (e.g., rooflines, windows, doors, siding, and porches) and/or a large, incompatible addition constitutes a significant alteration and a low level of integrity, as presented in Table 1. A physical examination of the APE revealed many examples of common architectural forms (including Cross Gable, Front Gable, Minimal Traditional, and Ranch houses) with limited or unremarkable architectural detailing. These dwelling forms within the potential historic district are found widely throughout the region and do not appear to warrant individual documentation and evaluation unless they are particularly well-preserved examples of their type or part of an eligible collection.

2.4 Historic Architecture Recommendations

Additional background research, field survey, and documentation of historic architectural resources are recommended for the next phase of the Livingston Manor project based on the Phase I Historic Resources Investigation results. The APE will be refined based on the selection of a preferred alternative(s) and details of the proposed work. Additional research and documentation of properties within the refined APE should be conducted in accordance with NY

SHPO standards. The appropriate level of historic documentation to be conducted as part of future work efforts will be determined by the United States Army Corps of Engineers (USACE) in coordination with the NY SHPO and will be consistent with Section 106 of the National Historic Preservation Act. Table 1 summarizes the Phase IA historic architecture survey results and recommendations.

The reconnaissance survey identified 72 previously unevaluated aboveground resources present on the landscape (Figure 2). Only the Livingston Manor Central School (A003) has been previously determined eligible for listing in the National Register. As part of future work efforts, those 50-year-old properties within the refined APE of the chosen alternative(s) will require documentation on the appropriate survey form and evaluation for eligibility. The Livingston Manor Central School has been previously surveyed; however, additional research into the history and significance of the building will be necessary. The additional background research will assist in the determination of a period of significance and boundary delineation for the property.

Buildings that share geographic, historic, and/or architectural features should be documented as collections or districts. For example, if it is within the refined APE, the hamlet of Livingston Manor should be evaluated as a potential historic district. Additional research and documentation is recommended to determine the extent of the potential district, whether it be confined to the downtown commercial district at Main and Pearl streets or to the larger commercial and residential core of the hamlet generally bounded by School Street to the north, Route 17 to the east, Dubois Street to the south, and High Street to the west. Individual forms should be prepared for those properties that may possess individual significance but are located within non-eligible collections, such as 48 Pearl Street (A047).

Documentation of individual properties and historic districts on survey forms will require additional background research, field survey, and documentation. Limited background research has been conducted for the Phase IA survey; however, the next phase of documentation will require additional research at the Sullivan County Recorder of Deeds, Tax Assessment Office, and Historical Society. Several historical maps, documents, and photographs have been gathered to date, as listed in the bibliography. Existing and new information should be examined in the next phase of work in order to thoroughly document the historical development of Livingston Manor and evaluate the significance of individual properties and potential historic districts within the project area. An intensive level field survey is recommended within the APE for the preferred alternative(s) in order to fully document existing conditions and note alterations to properties. In order to complete the written and photographic documentation, photographs of each elevation and significant details are recommended, in addition to field notations and site plans.

More detailed evaluations of future work recommended for each alternative is provided below.

Area 1: Lower Covered Bridge Road. The properties adjacent to the lower Covered Bridge Road area (Photographs 1 and 2) are primarily Ranch style or mobile homes erected after 1960. One parcel on Covered Bridge Road that extends close to the proposed improvements contains a dwelling (A001) constructed more than 50 years ago that may require documentation on a survey form if the proposed work extends outside of the existing right-of-way (ROW). Although the dwelling is located far to the north, the tax parcel encompasses a larger area and extends to the south near the crossing of Route 17 and Covered Bridge Road.

Area 2: High Flow Channel Area. The land within and surrounding the high flow channel area (Photographs 3 and 4) is primarily watered and wooded and does not contain any structures. The only exception is at the south end of the area, which crosses the west side of the tax parcel associated with the Livingston Manor Central School (A003; Photograph 5), a National Register-eligible property. Although the property was previously determined eligible, a boundary was not delineated at that time. If this alternative is chosen, the school property would require further documentation and a boundary would need to be delineated in order to assess the potential effects of the project on historic properties.

Area 3: Forested Wetland Restoration. The area within and immediately adjacent to the forested wetland restoration area was formerly comprised of late-twentieth-century commercial buildings, which have since been demolished. Only one modern shed and pump house (A002; Photographs

6 and 7) remains in the area, which is primarily covered by grass. Willowemoc Creek extends to the west and the south, and the surrounding residential and institutional properties are screened from the APE by trees. No additional documentation of historic structures is recommended for this alternative.

Area 4: Northern Levee Modification Area. The northern levee modification area (Photographs 8 to 10) runs along the southern boundary of the Livingston Manor Central School property (A003). Although the property was previously determined eligible for listing in the National Register, a boundary was not delineated at that time. If this alternative is chosen, the school property would require further documentation and boundary delineation in order to assess the potential effects of the project on historic properties. It is anticipated that the proposed work under this alternative would not result in indirect effects to 50-year-old resources such as downtown Livingston Manor, which is across the creek from the proposed northern levee modification area. If it is determined that visual impacts are possible to properties on the south side of Willowemoc Creek, historic district documentation may be required.

Area 5: Southern Levee Modification Area. The southern levee modification area extends along the southern bank of the Willowemoc Creek between Main Street and the end of River Road and along the rear property lines of several residential lots (Photographs 11 to 13). Eight of the properties fronting on River Road (A004 to A011) were constructed 50 years ago or more and are located near the center of the hamlet. These properties would require documentation on survey forms and evaluation as a collective whole based on their physical proximity and historic relationship to the hamlet of Livingston Manor.

Area 6: Realign Confluence Area. The realign confluence area extends along Little Beaver Kill between Main Street and the confluence with Willowemoc Creek and includes eight properties fronting on Main Street and River Street (Photographs 14 through 18). The four residential properties along River Street (A012 to A015) do not appear to retain significance or integrity and should be documented either individually or as a larger district that includes early residential and commercial development in Livingston Manor. The four properties on Main Street (A016 to A019) are commercial properties associated with downtown Livingston Manor that retain moderate integrity and should be documented as part of a potential historic district that either encompasses the downtown commercial district centered on Main and Pearl streets or includes the larger residential and commercial core of Livingston Manor.

Area 7: Bridge Expansion Area. The bridge expansion area is located in the center of downtown Livingston Manor, surrounded by late-nineteenth- and early-twentieth-century commercial properties (Photographs 15, 18 through 23). Seventeen (17) properties (A016 to A032) are located adjacent to or within the viewshed of the bridge and should be documented on survey forms. It is recommended that these properties be documented and evaluated for National Register eligibility as part of a potential downtown historic district centered on Main and Pearl streets or as a larger Livingston Manor residential and commercial historic district.

Area 8: Floodwall/Floodplain/Riparian Restoration Area. Area 8 (Photographs 23 through 28) extends along Little Beaver Kill east of Main Street and is surrounded primarily by late-nineteenth- and early-twentieth-century residential and commercial properties fronting on Pearl and Pleasant streets (A026, A030, and A033 to A050). At the southeast end of the area is a public park that was originally a quarry. It is recommended that the properties included in the APE for this alternative be documented and evaluated within the context of a potential historic district made up of either the historic commercial and residential core of Livingston Manor or as only the downtown commercial district. One property, 48 Pearl Street (A047; Photograph 26), was previously documented but has no prior determination. As a well-preserved example of a Queen Anne style dwelling in Livingston Manor, 48 Pearl Street would require individual documentation in addition to evaluation as a part of a potential historic district.

Area 9: Dry Lake Bed/Wetland Complex Stream Restoration Area. Area 9 is located to the southeast of downtown Livingston Manor and surrounded primarily by wooded and vacant lands (Photograph 29 through 32). A public park, formerly a quarry, makes up the majority of Area 9; however, a few scattered properties front on Pearl Street, which is known as Old Route 17 outside of the hamlet limits (Photographs 29 and 30). The four properties (A051 to A054) contain early- to mid-twentieth-century residential and commercial buildings, which should be documented on survey forms. None of these properties appear to retain significance or integrity and will likely be recommended not eligible. In addition to these properties, the former New York, Oswego, and Midland Railroad right-of-way (A055) extends across the south side of the APE. The railroad has previously been documented on a site form, although no determinations have been made as to its historic significance. Only the railroad bed and right-of-way remain extant, as the tracks, ties, and ballast have been removed; however, additional research should be conducted to determine the significance of the railroad, which should be evaluated as a linear district.

Area 10: Remove Culvert Restrictions/Rock Grade Structure Installation. Area 10 extends along Cattail Brook from the confluence with Willowemoc Creek to a point just south of the crossing of Main Street (Photographs 33 to 36). The APE for this alternative consists primarily of residential properties (A056 to A073) in downtown Livingston Manor and along Main Street to the south end of the hamlet. While some of these properties can be evaluated within the downtown Livingston Manor district, many may require individual site forms due to their distance from the downtown area. None of the 18 properties within Area 10 appear to retain significance or integrity to be recommended individually eligible, although some may contribute to a potential historic district.

3.0 ARCHAEOLOGY

3.0 ARCHAEOLOGY

The archaeological sensitivity study results recorded in this report were developed in two stages. The first stage included a very preliminary background study of the APE based on a review of historic maps to identify the location of potential resources, a review of site files located at the SHPO to determine the presence or absence of previously recorded sites, and a review of cultural resources studies from the immediate area. A pedestrian reconnaissance of the project's archaeological APE was conducted as the second stage of the study. It is important to note that visibility of the physical landscape was very poor at the time of the survey due to a winter storm.

3.1 Area of Potential Effect

The APE for archaeological resources is defined as any area in which ground disturbance may occur and will include direct construction impacts as well as temporary, permanent, and revertible easements. The APE for this project includes ten alternatives for flood damage reduction and ecosystem restoration (Figure 1).

3.2 Background Research

Background research included the review of previously recorded archaeological sites and cultural resources surveys conducted within the archaeological APE. To date, no prehistoric sites have been recorded within the archaeological APE. There are currently 12 historic sites recorded within proximity to the APE (Table 2) and a single site is located within direct proximity to the APE in Area 10 (Livingston Manor Electrical Co.).

Table 2. Archaeological Sites in Proximity of the APE.

Site No.	Site Name	Period	Site Type
A 105-9-0007*	Delinquent Boys' Home Historic Complex	Historic	Unknown
A 105-11-0022*	Bluestone Quarries	Historic	Industrial
A 105-13-0016	NY & OM RR Bed	Historic-1873	Industrial/ Transportation
A 105-13-0028	William Parks	Historic-c.1875	Sawmill, extant dam, race, foundation, weir, gate
A 105-13-0029	M.T. Morss (?)	Historic-c.1855	Tannery, foundations
A 105-13-0030	M.T. Morss (?)	Historic-c.1855	Tannery
A 105-13-0031	J. Bloomer (?) M.T. Morss (?)	Historic-c.1855	Sawmill
A 105-13-0038*	Historic Foundation & Well	Historic	Architectural
A 105-13-0039*	Anna Walter's Barn	Historic-c. post-1875	Architectural
A 105-13-0062	Livingston Manor Electrical Co.	Historic-c.1921	Dam ruins
A 105-46-0007	John F. Sherwood	Historic	Sawmill
A 105-46-0008	M.T. Morss (?)	Historic-c. pre-1871	Steam sawmill

*Site data from Hartgen Marcy South Transmission Survey Report Inventory (Hartgen 1986)

The extensive cultural resources survey of the Marcy South 345 kV Catskill Bypass Transmission Line was undertaken by Hartgen Archaeological Associates from January 1985 to January 1986. The survey identified 37 areas with a high potential for prehistoric archaeological resources. Twenty (20) of the identified locations were examined, and no cultural resources were identified. Four historic sites were identified within the APE for the 33-mile transmission line. All four sites were identified as maple sap evaporation sites. The survey also identified the location of eight bluestone quarries and one modern lumber camp. No eligible archaeological sites were identified during the survey and no further work was recommended (Hartgen Archaeological Associates 1986).

In 2001, Hartgen Archaeological Associates performed a Phase IA Literature Review and Sensitivity Assessment and Phase IB Archaeological Field Reconnaissance study for the Willowemoc-Clements Communications Facility in the Town of Rockland, Sullivan County, New York. According to the report, the background research effort suggested that the project area held no potential for prehistoric resources and only a moderate potential for historic resources. The Phase IB fieldwork corroborated the assumptions of the Phase IA investigation. No archaeological resources were identified and no further investigations were recommended (Hartgen Archaeological Associates 2001).

A Public Archaeology Facility Report was prepared by Christopher D. Hohman and Richard Santos of Binghamton University for the NY 17 Interchanges, Exits 94, 96, 97, and 99. The document reported the excavation of 70 STP across the four locations. The STPs produced no evidence of prehistoric occupation within the project area, and the artifacts that were recovered consisted of random historic refuse (Hohman and Santos 2003).

3.3 Pedestrian Reconnaissance

On February 23, 2010, an A.D. Marble & Company archaeologist performed a pedestrian reconnaissance of the ten project areas in order to 1) identify those portions of each area that have been impacted by modern disturbances and 2) to identify areas where ground slopes and soil drainage characteristics may preclude the need for subsurface testing. The reconnaissance survey assisted the A.D. Marble & Company field team in its identification of archaeologically sensitive areas within the archaeological APE. Areas within the APE that were determined not to be sensitive to archaeological resources are not recommended for subsurface investigations.

The Archaeological APE for this project is broken into ten alternatives that were investigated and evaluated individually. The following section of this report presents a brief description of each of the areas at the time of the pedestrian survey and gives a precursory recommendation for future investigations. Figure 3 presents the locations of each alternative over an aerial photograph of Livingston Manor as well as the locations of each photograph.

<u>Area 1: The Lower Covered Bridge Road Area.</u> Area 1 presents moderate potential for the presence of prehistoric archaeological resources in portions of the APE that have not been disturbed by construction related to the Route 17 bridge and Covered Bridge Road (Photographs 1 and 2). Geomorphological examination is recommended at this location.

<u>Area 2: The High Flow Channel Area.</u> Area 2 is a heavily scoured area, currently underwater, that holds no potential for the presence of archaeological resources (Photograph 3). Area 2 is located between a steep mountainside and the relatively flat area designated Area 3. At some point in the recent past, this area may have been a channel for the Willowemoc Creek. However, as is evidenced by Photograph 4, access for the water to drain is now cut off by School House

Road and active school sports fields. Due to the inundation of water and the low likelihood of stable soils in this area, there is a low to no potential for prehistoric archaeological resources.

Area 3: The Forested Wetland Restoration Area. Area 3 appears to be quite disturbed, particularly along most of the surface area (Photograph 6). There is a single cement foundation standing near the center of this area and the remains of several other cement and cinderblock foundations are evident across the area (Photograph 6). The presence of a water main that runs parallel to the Little Beaver Kill Creek and cuts across Area 3 parallel to the creek, along with a pump house that appears to be for flood control, all contribute to the generally disturbed nature of this area (Photograph 7). However, there are several portions of the area that may still retain some integrity. Geomorphological evaluation in this area will help to determine if buried resources are present. The potential for surface and shallow subsurface resources is very limited.

Area 4: The Northern Levee Modification Area. Area 4 is a linear study area that extends along the northern bank of Willowemoc Creek. The study area begins at the bridge carrying Route 17 across the creek and follows the contour of the creek west and northwest past the confluence with the Little Beaver Kill and Cattail Brook (Photograph 8). The largest portion of the study area is situated on what appears to be an extremely dynamic floodplain that rises up sharply to an upland area, particularly along the northwest section near the confluence (Photograph 10). Testable sections of the area are located directly south of the Livingston Manor Central School between the existing levee wall and the creek bank. This portion of the study area is moderately flat and sits approximately 1.5 to 2 meters above the water line (Photograph 9). Subsurface testing, to determine levels of disturbance, is recommended in this area.

Area 5: The Southern Levee Modification Area. Area 5 is another linear study area that begins at the confluence of Little Beaver Kill, Cattail Brook, and Willowemoc Creek and extends along the southern bank of Willowemoc in a northwesterly direction (Photograph 12). The bulk of this study area is located along the highly dynamic floodplain and includes a visibly manmade earthen levee/berm (Photograph 13). The potential for intact archaeological resources is moderate to low and low if all activities are restricted to the manmade berm/levee and the active floodplain. If impacts are proposed outside the earthen berm/levee area, away from the active floodplain, there is a high to moderate potential for prehistoric resources.

<u>Area 6: The Confluence Realignment Area.</u> Area 6 is located at the confluence of the three waterways and extends southeast to the bridge over Little Beaver Kill. The northwestern end (at the confluence) is currently being used as a community park, is planted in grass, sits approximately 2 meters above the water surface, and gains slight elevation the closer it gets to the town square (Photographs 16 and 17). An asphalt parking lot is located at the southeastern end of the area. During the field visit, this area was completely covered with snow and a thick layer of ice (suggesting recent overbanking and subsequent freezing), making it extremely difficult to determine the extent of surface disturbance. However, the location of this study area to the confluence of the three bodies of water present two distinct landscape possibilities that could affect the potential for prehistoric resources. The very tip of the area is likely comprised of very modern alluvium and may not retain any record of stable soils capable of hosting prehistoric occupation; or there may be significant soil stability to present an excellent location for prehistoric occupation. A geomorphological evaluation of this area is recommended in order to determine the types of soils that comprise the landscape and make a determination for their potential to contain cultural resources.

<u>Area 7: Bridge Expansion Area.</u> In the Bridge Expansion Area, the bridge that carries Main Street of the Little Beaver Kill is a two-lane bridge that sits on stone abutments that connect directly to the stone levees/foundation walls of the buildings in three of the quadrants (Photographs 18 to 22). Exposed bedrock is present directly below an asphalt parking lot in the northeast quadrant. Evidence of channelization of the Little Beaver Kill is present at the base of the exposed bedrock in the northeast quadrant (Photograph 18). There is no prehistoric archeological potential in this area as there is no intact soil due to proximity to the bridge and location in the floodplain. The river is very strictly channelized within Area 7. The only potential for cultural resources lies with the actual buildings and their foundations. If project plans include the removal of any of the buildings, a more thorough archaeological investigation is recommended.

Area 8: The Floodwall/Floodplain/Riparian Restoration Area. Area 8 is a linear study area lying along both banks of the Little Beaver Kill. This area crosses the backyards of a number of older dwellings. At the time of survey, the backyard sections along the eastern bank of the Little Beaver Kill sat approximately 1 to 2 meters above the water level (Photograph 27) and appear to be relatively intact. An open and fallow field is located on the western bank of Little Beaver Kill (Photograph 28) and sits 1.5 to 2 meters above the waterline. Both the backyard areas and the open fallow field present a high potential for the presence of prehistoric resources, and the backyard areas present a high potential for historic resources.

Area 9: The Dry Lakebed/Wetland Complex Stream Restoration Area. Area 9 is the largest area that was evaluated during the Phase IA sensitivity study. This is a low-lying area that appears swampy and is sporadically covered with wetland plants (Photographs 31 and 32). There are two sections of Area 9 where higher ground is the dominant landscape. There is a portion of high ground near the southeastern end of the area where an automobile repair shop sits on what appears to be a bed of fill (Photograph 30). The southwestern border of Area 9 is terraced and rises up sharply from the dry lake bed to a relatively flat terrace that is approximately 9 to 15 meters wide, then rises to a second terrace and eventually rises toward the top of the mountain. Historic maps show a rail line running along the first terrace. However, no visible evidence of the rail line, other than the flat terrace landscape, was viewed during the survey. If considerable modern disturbance has not destroyed the first terrace, it holds a moderate to high potential for prehistoric resources.

Area 10: Remove Culvert Restrictions/Rock Grade Structure Installation. Area 10 is a long linear area that begins at the confluence of Willowemoc Creek and Cattail Brook and continues south, following the brook, where it terminates on the eastern side of County Highway 149. Photograph 10 shows the confluence at the eastern end of the area. Cattail Brook is currently channelized with large culvert stones (Photographs 33 and 35).

The only recorded historic site within the archaeological APE for this project is located in the proximity of Area 10. The Livingston Manor Electrical Co. Site is recorded along the western edge of the area. The site form for the Livingston Manor Electrical Co. Site lists the description of evidence of the site as “dam ruins.” No evidence of the dam ruins was visibly confirmed during the pedestrian survey for this project. The eligibility of the site is currently unknown. If project plans include activities that are restricted to the actual streambed and do not include any new ground disturbances, there is a very low probability for cultural resources. If project designs include disturbances outside of the physical stream bed, then subsurface excavations are recommended in this area.

3.4 Archaeological Recommendations

As the APE has alluvial soils that could contain deeply buried archaeological deposits, a geomorphological assessment of the project area will be necessary. Geomorphological investigations should be conducted by qualified personnel (i.e., a geomorphologist, pedologist, geoarchaeologist, or other soil scientist). The initial method of geomorphological investigation should include auger boring in areas mapped as upland and alluvial soils within the APE. In the event that potential artifact-bearing surfaces appear to be deeper than auguring depth, mechanized trenching may be necessary. The modes of investigation will be determined by the project geomorphologist in consultation with the archaeological principal investigator, in accordance with the appropriate state guidelines. The purpose of the geomorphologic investigation is to determine the appropriate Phase I testing methodology for each landform within the APE.

If the results of the geomorphology study determine that the area contains intact soils that could contain archaeological resources, a Phase I Archaeological Survey would be necessary. The Phase I Archaeological Survey would be performed in accordance with the appropriate state and federal guidelines.

Phase I fieldwork would proceed with subsurface investigation via a systematic sampling strategy that involves the excavation of shovel test pits (STPs) placed at 15-meter intervals. All STPs will be excavated manually via shovel, will measure approximate 50 centimeters in diameter, and will be excavated at least 10 centimeters into culturally sterile deposits. All excavated sediments will be sifted through 0.64-centimeter wire mesh cloth. Excavation data from all STPs will be recorded on standard field forms. With the exception of modern debris (plastic, aluminum foil, etc.), which will be noted on the field forms, all artifacts recovered from the tests will be retained for processing and analysis. The locations of the STPs will be recorded on scale maps of the survey areas. Isolated positive STPs will be bracketed with additional STPs excavated at 5-meter intervals in the cardinal directions to better define potential site boundaries.

In the event that geomorphological evaluation of the proposed alternative areas discovers buried soils stable enough to support occupation below the depth of 1 meter within the APE, test unit (TU) excavation would proceed in lieu of standardized STPs. TU excavation would be conducted at 30-meter intervals (equivalent to four TUs per acre or 10 tests per 1,000 linear feet).

The archaeological sensitivity for each of the proposed alternatives is presented as Figure 4. Archaeological sensitivity presented in Figure 4 is based solely on the background research and pedestrian reconnaissance survey conducted in February 2010 and only reflects the potential for cultural resources within the 10 proposed alternatives for this specific project. Based on the background research and pedestrian reconnaissance of the archaeological APE for the Livingston Manor Phase IA Historic Resources Investigations project, the following recommendations are proposed for each of the ten alternatives:

- Area 1: Lower Covered Bridge Road
    - Geomorphological evaluation.
    - STP excavation.

- Area 2: High Flow Channel Area
    - No potential for archaeological resources.

- Area 3: Forested Wetland Restoration
    - Geomorphological evaluation of portions of the area not visibly disturbed.
    - Subsurface excavation (STP and/or TU) in areas where the presence of visible disturbance is not obvious.

- Area 4: Northern Levee Modification Area
  - The eastern end of the Northern Levee Modification Area will require a geomorphological evaluation in portions that sit between the stone levee wall and the creek.
  - Subsurface excavation (STP and/or TU) in the eastern section.
  - No potential for archaeological resources on the active floodplain.
  - No potential for archaeological resources at the location of the earthen berm/levee along the western end of this area.

- Area 5: Southern Levee Modification Area
  - No potential for archaeological resources between the earthen berm and the Little Beaver Kill Creek.
  - No effect to potential resources if project activities are relegated to removal and repair of existing earthen berm/levee.

- Area 6: Realign Confluence Area
  - Geomorphological evaluation of terrace overlooking the confluence of Willowemoc Creek, Little Beaver Kill, and Cattail Brook.
  - Subsurface excavation (STP and/or TU).

- Area 7: Bridge Expansion Area
  - No potential for prehistoric archaeological resources.
  - High potential for historic archaeological resources if project plans include the removal of historic buildings standing in three of the four quadrants.

- Area 8: Floodwall/Floodplain/Riparian Restoration Area
  - Geomorphological evaluation.
  - High potential for historic and prehistoric archaeological resources in backyards of historic homes along Peach Road.
  - High prehistoric potential in an open fallow field on the western side of this area.

  - Will require additional background history on each property to determine dates of construction and potential for buried historic resources.

- Area 9: Dry Lake Bed/Wetland Complex Stream Restoration Area
  - No potential for archaeological resources within the dry lake bed/existing wetland area.
  - Subsurface excavation along the western side of the area where the landscape rises up to a relatively flat and moderately wide terrace that likely overlooked the lake during prehistoric times. Review of historic maps revealed the flat terraced area supported a rail line. This portion of the area holds a moderate to high potential for prehistoric archaeological resources where rail line construction and demolition activities have not caused excessive disturbance.

- Area 10: Remove Culvert Restrictions/Rock Grade Structure Installation
  - If project activities are restricted to the removal of culvert restrictions and modifications of Cattail Brook channel, no potential for archaeological resources is present.

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REFERENCES

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1892 *Livingston Manor, Sullivan County, New York*. Sanborn Map Company, New York, New York.

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1924 *Livingston Manor, Sullivan County, New York*. Sanborn Map Company, New York, New York.

1936 *Livingston Manor, Sullivan County, New York*. Sanborn Map Company, New York, New York.

United States Geological Survey (USGS)

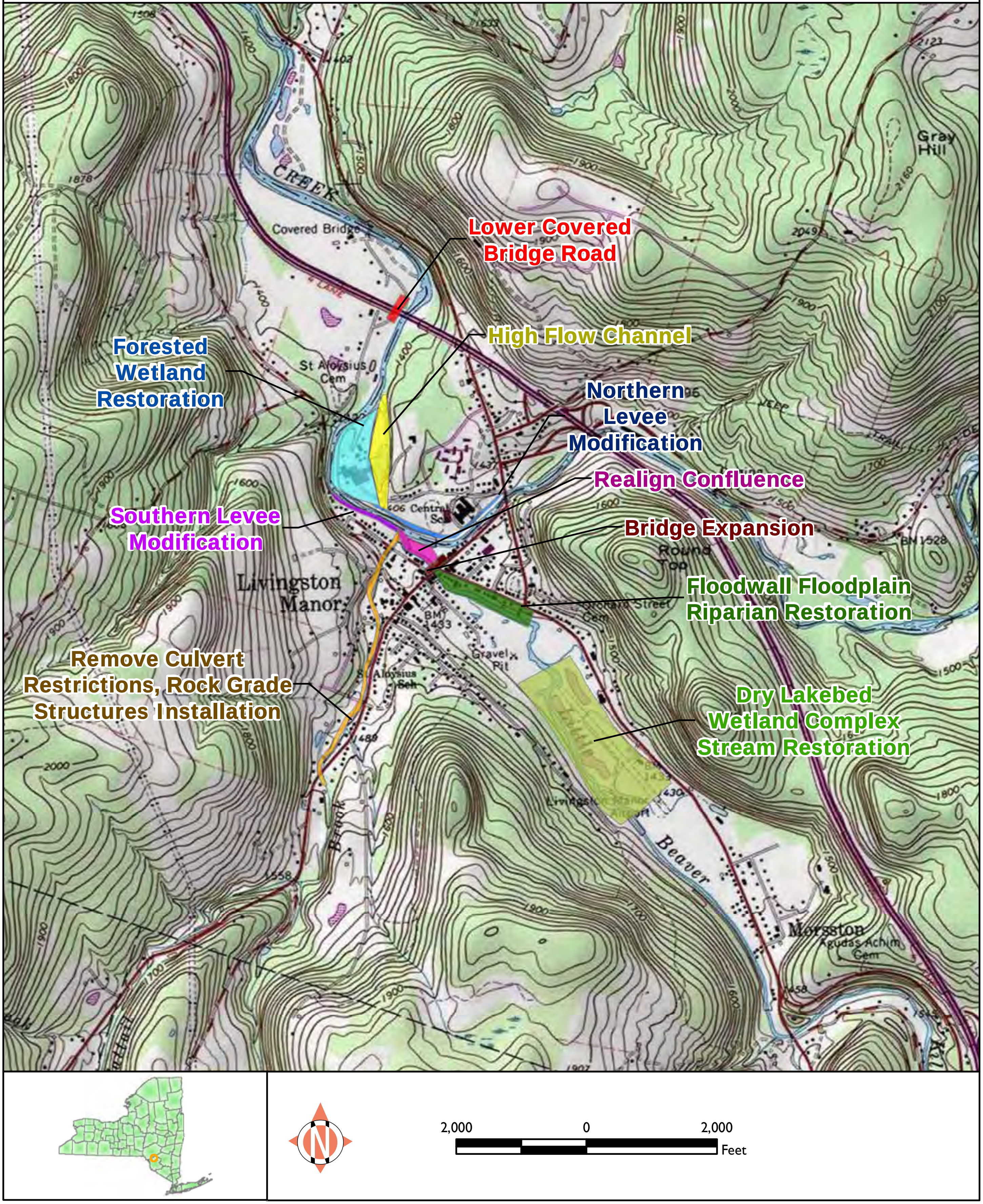
1923 *Livingston Manor, New York.* 7.5-minute Digital Raster Graphic (DRG). USGS, Reston, Virginia.

1982 *Livingston Manor, New York.* 7.5-minute Digital Raster Graphic (DRG). USGS, Reston, Virginia.

APPENDIX A:
FIGURES

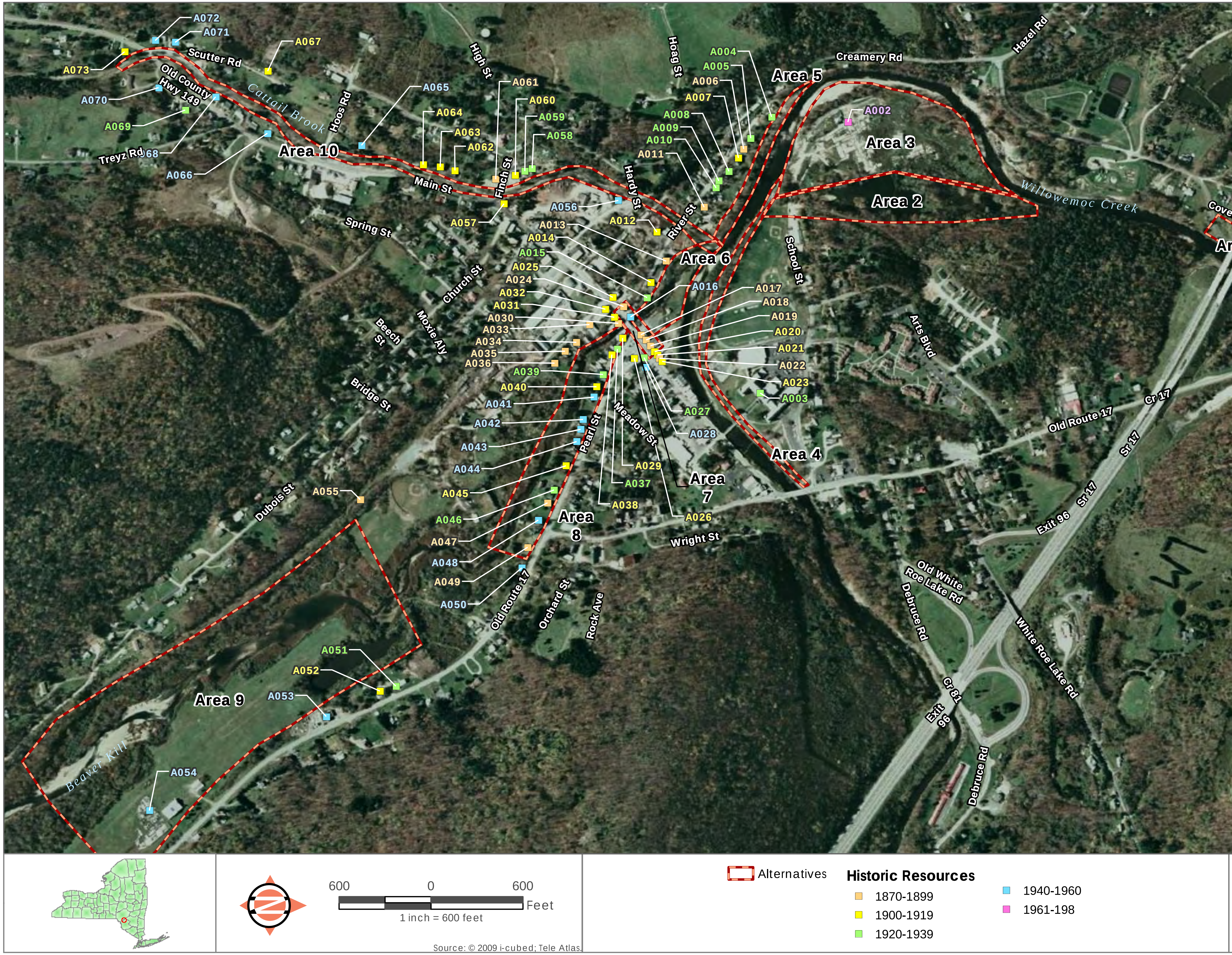
Figure 1
Project Location Map

Phase IA Historic Resources Investigations
Livingston Manor, Sullivan County, New York



Map Document: (X:\Projects\P1202\Mapping\Fig1ProjLoc.mxd)
3/30/2010 -- 1:59:30 PM

Map Source:
© 2009 National Geographic Society, i-cubed



Source: © 2009 i-cubed; Tele Atlas.

Figure 2
Historic Architecture Survey Results

Phase IA Historic Resources Investigations
Livingston Manor
Sullivan County, New York

Map Document: (X:\Projects\P1202\Mapping\Fig2HistRes.mxd)
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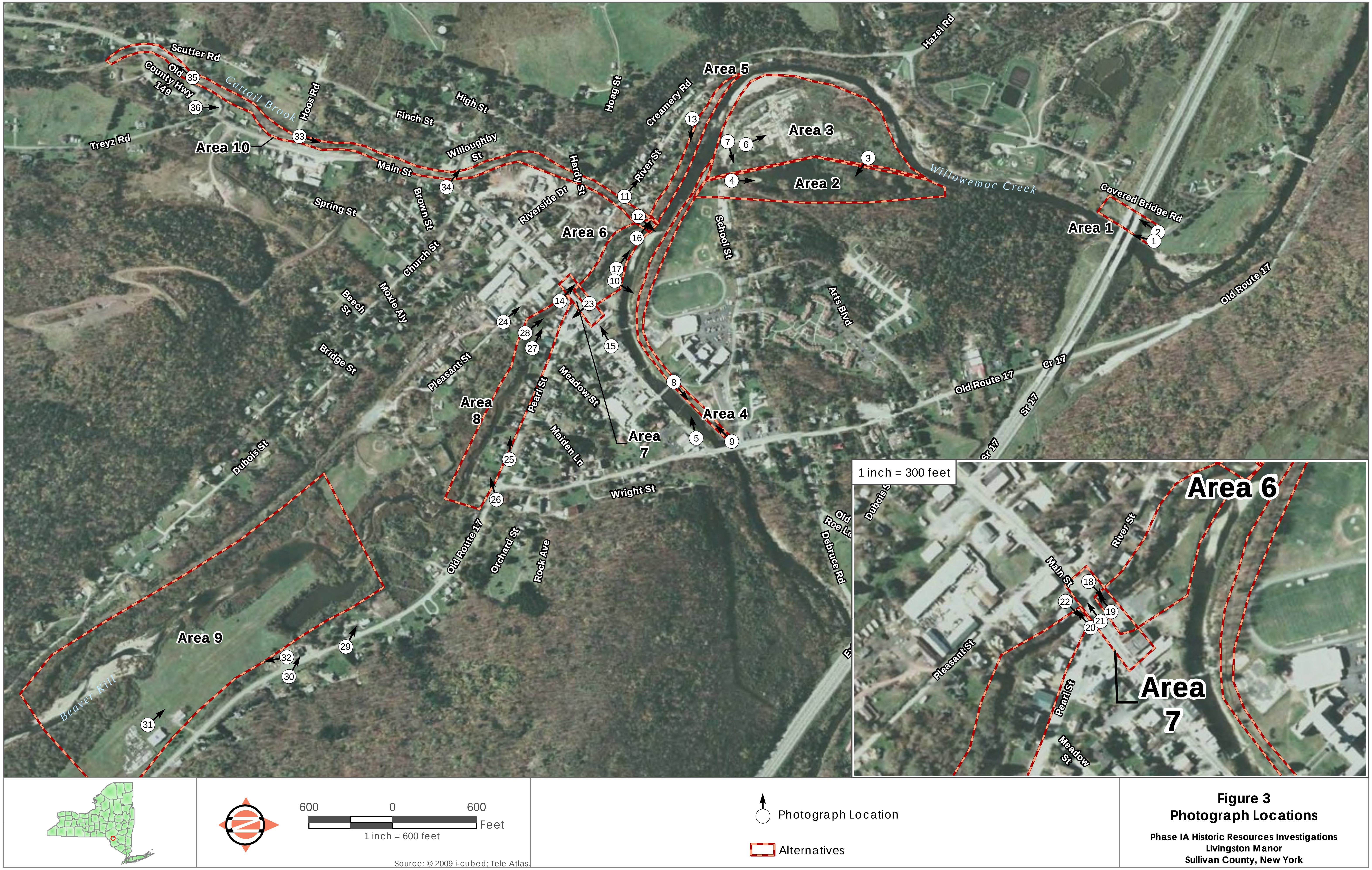
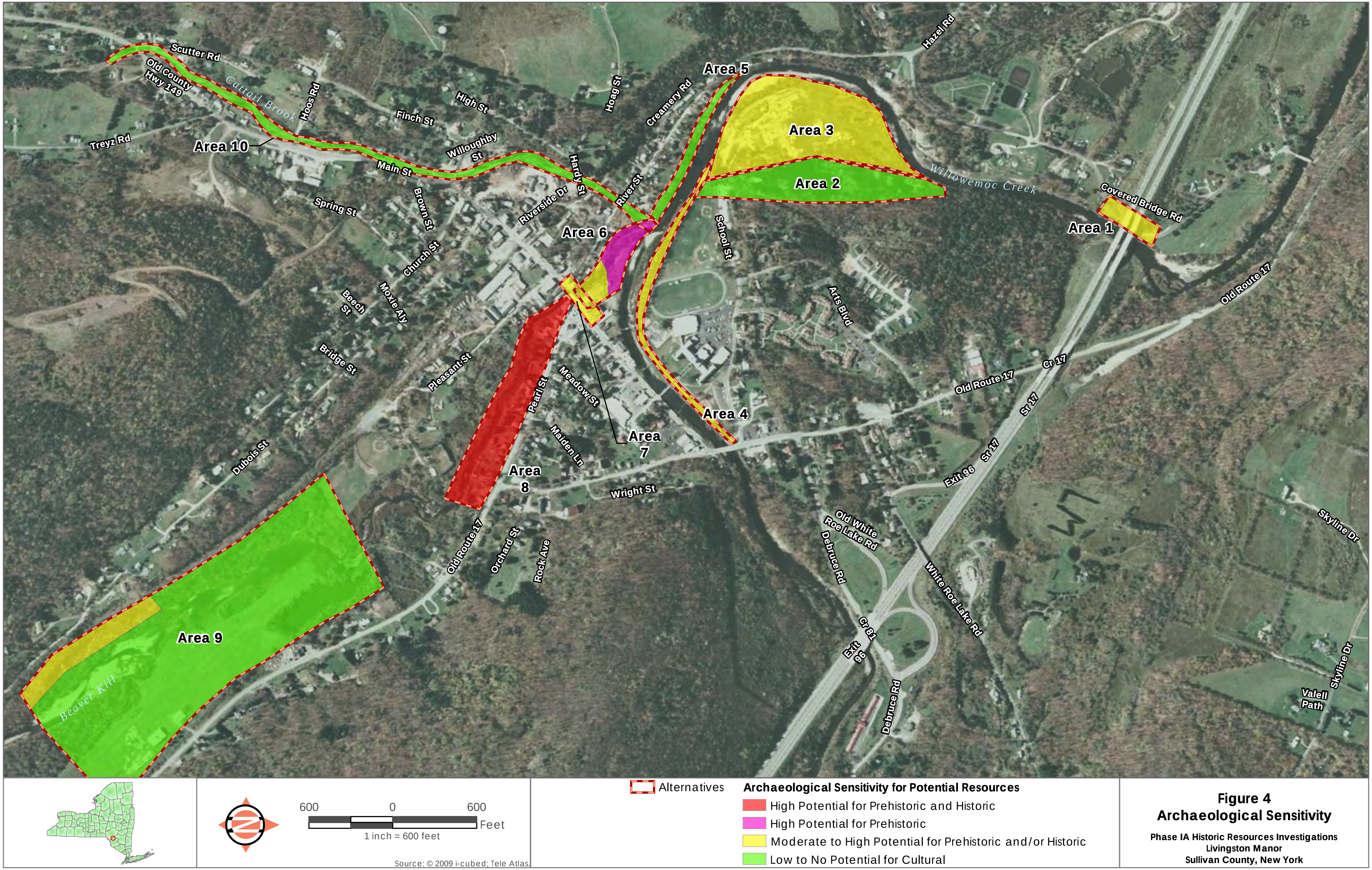


Figure 3
Photograph Locations

Phase IA Historic Resources Investigations
Livingston Manor
Sullivan County, New York



Source: © 2009 i-cubed; Tele Atlas.

☐ Alternatives

Archaeological Sensitivity for Potential Resources

🟥 High Potential for Prehistoric and Historic
🟪 High Potential for Prehistoric
🟨 Moderate to High Potential for Prehistoric and/or Historic
🟩 Low to No Potential for Cultural

Figure 4
Archaeological Sensitivity

Phase IA Historic Resources Investigations
Livingston Manor
Sullivan County, New York

Map Document: (X:\Projects\P1202\Mapping\Fig4ArchaeoSens.mxd)
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GTS
TECHNOLOGIES
Engineers • Geologists • Surveyors • Environmental Consultants

FINAL
SITE INVESTIGATION REPORT

CONTRACT NUMBER W912BU-14-0008, TASK ORDER 0001

PROJECT NAME
LIVINGSTON MANOR FLOOD PROTECTION PROJECT
LIVINGSTON MANOR, SULLIVAN COUNTY, NEW YORK

JULY 14, 2015

GTS Technologies, a division of American Engineers Group, LLC.

CONTRACT NUMBER W912BU-14-0008, TASK ORDER 0001
LIVINGSTON MANOR FLOOD PROTECTION PROJECT
LIVINGSTON MANOR
SULLIVAN COUNTY, NEW YORK

SITE INVESTIGATION REPORT

July 14, 2015

Prepared For:

Philadelphia District
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Prepared By:

GTS Technologies, a division of American Engineers Group, LLC
441 Friendship Road
Harrisburg, Pennsylvania 17111

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1.0 INTRODUCTION

GTS Technologies (GTS), a division of American Engineers Group, LLC has prepared this Site Investigation Report to present the findings of the subsurface investigation and testing, performed as described in the Final Work Plan, dated February 15, 2015. The investigation was performed in association with the Livingston Manor Flood Control Project, located in Livingston Manor, Sullivan County, NY (See **Figure 1, Project Location Map and Figure 2, Project Study Area**). This project is being performed for the United States Army Corps of Engineers, Philadelphia District under Contract Number W912BU-14-0008, Task Order 0001. The subsurface investigation was performed between March 16 and 18, 2015.

The U.S. Army Corps of Engineers, Philadelphia District (USACE) is presently assisting the New York Department of Environmental Conservation (NYDEC) to prepare the Livingston Manor Feasibility Study to provide recommendations for potential flood risk management solutions. The proposed flood protection project, involves the restoration of the Little Beaver Kill (LBK), near the airport and high school fields, and the widening of the LBK floodplain below the Main Street Bridge. The purpose of the subsurface investigation is to investigate the soil properties of the subsurface materials encountered in the area of the project. The subsurface investigation and testing will help the USACE for the design of flood risk management features.

2.0 SITE DESCRIPTION

The Livingston Manor site is located in Sullivan County, New York, at the confluence of the Little Beaver Kill with Willowemoc Creek. The project alignment extends southeast along the Little Beaver Kill from a point near the confluence with Willowemoc Creek, just northwest of the intersection of Main and Pearl Streets, to a point approximately 1 mile southeast along the east floodplain of the Little Beaver Kill (along State Route 178) , and ending in an abandoned airport. The site area is composed of open parkland and community developed property to the north and open grassland to the south.

2.1 SITE GEOLOGY

Based on a review of the U.S. Geologic Survey, the project area is underlain by the Upper Walton Formation of the Upper Devonian Period, and is composed primarily of shale with sandstone (See **Figure 3, Geology Map**).

The USDA soil survey for Sullivan County, New York indicates that the soils within the project area are composed of the following soils that are generally described below:

> **Bash silt loam (Bs)** – is described as very deep, nearly level, somewhat poorly drained soil on flood plains. In most years it is subject to occasional flooding from December through April. Many areas have been dissected by old stream channels. Typically, the surface layer is about 5 inches thick. It is dark reddish gray silt loam in the upper part and dark reddish brown silt loam in the lower part. The subsoil extends to a depth of about 22 inches. It is reddish brown silt loam that has

thin lenses of loamy fine sand. The substratum to a depth of 60 inches or more consists of reddish gray and dark brown fine sandy loam.

Fluvaquents-Udifluvents complex, frequently flooded (Fu) – is described as very deep, excessively drained to very poorly drained, nearly level or gently sloping soils adjacent to streams. It is 45 percent Fluvaquents, 40 percent Udifluvents and 15 percent other soils. Typically, the surface layer of Fluvaquents is dark grayish brown and 1 to 10 inches thick. In some areas it is, in differing amounts, gravel and rock fragments. The substratum is mottled gray to black and reddish brown to dark brown sandy loam to silt loam and, in differing amounts, gravel or rock fragments. These soils range from slightly acid to very strongly acid. Typically, the surface layer of Udifluvents is dark reddish brown, loamy, and 1 to 7 inches thick. It contains, in differing amounts, gravel or rock fragments, the substratum is reddish brown or dark reddish brown loamy or sandy material, and, in differing amounts, gravel or rock fragments. Reaction is slightly to strongly acid throughout.

Suncook fine sandy loam (Fu) – is described as a nearly level, very deep, excessively drained soil that formed in recent, sandy, alluvial deposits. It is in nearly level areas on flood plains and in areas adjacent to major streams and rivers. In most years it is subject to occasional flooding from March through May. Typically, the surface layer is dark reddish gray fine sandy loam about 8 inches thick. The substratum extends to a depth of 60 inches or more. It is friable to loose, dark brown and dark reddish brown loamy sand and extremely gravelly loamy coarse sand.

Ud-Udorthents, smoothed (Ud) – This map unit consists of disturbed soils and areas of earthy materials. They are commonly near sites for industrial or urban development. Properties of Udorthents, smoothed, vary greatly over short distances. Some areas consist mainly of medium textured to coarse textured, disturbed soils, and other areas have considerable amounts of rock fragments and garbage or various kinds of solid waste. In some units soil removed from one part was used to fill an adjacent area. Typically, in these adjacent areas the surface layer is 2 to 8 inches thick. It is black to red very gravelly sand to silt loam. The substratum is very dusky red to olive yellow extremely gravelly sand to silt loam.

The **Soils Map** is presented as **Figure 4**. The soils encountered during the subsurface investigation, performed from March 16 to 18, 2015 are consistent with the secondary source data presented above.

3.0 SUBSURFACE EXPLORATION

3.1 SOIL BORINGS

Figures 5A and 5B present locations of the as-drilled borings. Proposed boring locations were provided by the USACE, and were field adjusted as necessary, due to utilities or other site related conditions, with concurrence with the USACE Site Representative.

Fourteen (14) borings were performed along the alignment of the proposed flood protection project. Eight (8) borings were drilled to 8 feet deep, four (4) 4 borings to 4 feet deep and two (2) borings to 30 feet deep near at the Main Street bridge. The 4-foot borings were taken to depth by auger only, while the remaining borings were drilled and sampled by SJB Services, Inc., a qualified driller, licensed in the State of New York using Standard Penetration Test (SPT) methods as described in the Final Work Plan and according to the approved Scope of Work. The soil encountered during the subsurface exploration was sampled according to the approved Scope of Work and Final Work Plan.

All drill holes were backfilled and abandoned in accordance with all Federal, State, and local laws, regulations and ordinances and in accordance with the Final Work Plan and approved Scope of Work.

GTS documented the borings with drilling logs, in accordance with the approved Scope of Work and Final Work Plan. A summary of borings is provided in **Table 1**. Boring logs are presented in **Appendix A, Typed Boring Logs**.

TABLE 1 – SUMMARY OF BORINGS

Boring No.	As Drilled Coordinates		Surface Elevation (feet)	Total Boring Depth (feet)
	Northing	Easting		
LMSB-1	404857	1115217	1422.9	8.0
LMSB-2	405046	1114971	1423.4	8.0
LMSB-3	405327	1114929	1425.2	8.0
LMSB-4	405203	1114577	1423.8	8.0
LMSB-5	405625	1114358	1426.4	8.0
LMSB-6	405864	1114155	1427.9	8.0
LMSB-7	406164	1113991	1429.8	8.0
LMSB-8	406074	1113823	1429.5	8.0
LMSB-9	404057	1116008	1418.3	4.0
LMSB-10	403631	1116774	1417.2	4.0
LMSB-11	402576	1117691	1417.9	4.0
LMSB-12	402434	1117788	1416.3	4.0
LMSB-13	402704	1117507	1422.3	28.8
LMSB-14	402671	1117552	1422.9	30.0

3.2 SUBSURFACE CONDITIONS

The subsurface materials encountered during the subsurface investigation were generally alluvial soils that were laboratory classified as sandy silt (ML) to poorly graded gravel with silt and sand (GP-GM). Boring LMSB-13 and LMSB-14 encountered fill materials from the surface to between 8 and 10 feet below surface grade (bsg). Borings LMSB-1 through LMSB-8 were drilled in the former airport area and were likely disturbed and re-engineered soils, but their composition was consistent with the alluvial soils encountered throughout the project site.

No volatile organic compounds in excess of 0.3 parts per million (ppm) were encountered during the drilling activities. It is likely that even these low readings were due to background sources such as the diesel engine of the drill rig.

4.0 GEOTECHNICAL LABORATORY TESTING

Upon completion of the drilling activities, fourteen (14) sample groups were selected by GTS to be laboratory tested, with concurrence of USACE. Soil classifications and sieve analyses were performed by GTS, an approved, USACE-validated, commercial testing laboratory having a current validation. Specific Gravity testing was performed by Navarro and Wright, an approved, USACE-validated, commercial testing laboratory having a current validation. Geotechnical laboratory testing was completed in accordance with the approved Scope of Work.

The geotechnical laboratory testing results are summarized below in **Table 2**, and presented in **Appendix B, Laboratory Testing Results**. As stated previously LMSB-1 through LMSB-8 were drilled in the former airport area and were likely disturbed and re-engineered soils, but their composition was consistent with the alluvial soils encountered throughout the airport area. Therefore, with coordination and concurrence with the USACE, only holes LMSB 2, 4, 6, and 8 were lab tested and included in **Table 2**

TABLE 2 – SUMMARY OF GEOTECHNICAL LABORATORY TESTING

Boring No.	**Sample Depth (feet)**	**USCS Classification [USCS Symbol]**	**Natural Moisture Content (%)**	**Atterberg Limits**		**Gravel (%)**	**Sand (%)**	**Silt and Clay (%)**	**Specific Gravity**
				LL (%)	**PI (%)**				
LMSB-2	2.0-8.0	Poorly graded SAND with silt and gravel (SP-SM)	5.3	NP[1]	NP	27.11	61.03	11.85	2.67
LMSB-4	2.0-8.0	Poorly graded GRAVEL with silt and sand (GP-GM)	3.5	NP	NP	61.61	31.59	6.80	NT[2]
LMSB-6	2.0-8.0	Poorly graded SAND with silt and gravel (SP-SM)	11.7	NP	NP	41.61	47.17	11.21	NT
LMSB-8	2.0-8.0	Pooly graded GRAVEL with silt and sand (GP-GM)	10.6	NP	NP	46.86	41.66	11.49	2.68
LMSB-9	0.0-4.0	Silty SAND (SM)	32.2	NP	NP	1.10	61.84	37.06	NT
LMSB-10	0.0-4.0	Sandy SILT (ML)	39.6	NP	NP	0.00	36.93	63.07	2.69
LMSB-11	0.0-4.0	Silty SAND with gravel (SM)	17.4	NP	NP	27.54	56.89	15.57	NT
LMSB-12	0.0-4.0	Silty SAND (SM)	19.2	NP	NP	3.89	66.08	30.04	2.68
LMSB-13	2.0-5.1	Poorly graded GRAVEL with silt and sand (GP-GM)	6.1	NP	NP	47.11	43.27	9.62	NT
LMSB-13	12.0-18.0	Well graded GRAVEL with silt and sand (GW-GM)	11.4	NP	NP	56.59	33.45	9.96	2.71
LMSB-13	22.0-28.0	Silty GRAVEL with sand (GM)	10.3	18	15	48.82	36.96	14.22	2.69
LMSB-14	2.0-6.0	Well graded GRAVEL with silt and sand (GW-GM)	6.0	NP	NP	63.62	26.70	9.68	NT
LMSB-14	12.0-18.0	Poorly graded GRAVEL with silt and sand (GP-GM)	11.1	NP	NP	56.64	34.09	9.26	2.72
LMSB-14	22.0-30.0	Silty SAND with gravel (SM)	12.0	NP	NP	42.61	42.99	14.40	2.70

1. NP – Non Plastic
2. NT – Not Tested

5.0 ENVIRONMENTAL LABORATORY TESTING

Following collection of the SPT samples, soils were visually examined for staining or other indications of contamination, and screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). PID screening results are documented in the boring logs. No readings above ambient background levels (0.3 ppm) were noted at the time of the site investigation..

Chemical characterization samples were collected primarily at the depth at which the proposed construction operations will impact the subsurface conditions and where excavation and other earthwork activity would most likely occur (likely from 0 to 15 feet below ground surface). Following PID screening no soil strata exhibited any evidence, visual or otherwise, of suspected contamination. Therefore, soil samples were collected from the interval directly above the groundwater table, or if groundwater was not encountered, with 4 feet of surface grade, and tested for chemical contamination.

Samples were analyzed for the full target compound list plus 30 (TCL+30), which includes 10 volatile VOCs and 20 semi-volatile organic compounds (SVOCs), and the full target analyte list (TAL), which includes inorganic compounds. In addition, samples were also collected near surface grades for the following: total soil nutrients and % organic matter, to evaluate soil conditions for potential reuse in ecosystem restoration.

Initially TAL metals analysis included Total Chromium. The laboratory result for every sample exceeded the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Use Soil Cleanup Standards for hexavalent chromium, which was used because there is no Total chromium standard in NYSDEC and because it was the more conservative of the chromium values (hexavalent as compared to trivalent). The USACE then requested that the samples be re-analyzed to determine which chromium (hexavalent or trivalent) was present. Those additional lab analyses have been added to the table. Hexavalent chromium was non-detect for all samples. Chromium present in the Livingston Manor soils is trivalent chromium.

Laboratory testing for VOCs, SVOCs, and TAL was performed by ALS Environmental, Middletown, Pennsylvania, a DOD approved analytical laboratory. Analysis of soil nutrients and % organic matter was subcontracted by ALS to Cornell University Nutrient Analysis Laboratory, of Cornell, NY. Cornell was approved by the USACE for this subcontracted lab analysis. All sampling methodology to be in accordance with NYDEC policy: "DER-10/Technical Guidance for Site Investigation and Remediation.

A hard copy of these lab results is attached to this report. A CD containing a PDF of lab results will also accompany this report in addition to an Electronic Data Deliverable (EDD) of the lab results. A copy of ALS Quality Assurance Manual is attached to this report in addition to verification of compliance with the DOD Quality Systems Manual as well as verification of ISO Guide 25 requirement participation, as directed by the USACE.

The environmental laboratory testing results are summarized below in **Tables 3 and 4**, and presented in **Appendix B, Laboratory Testing Results**. Only analytes that were present in one or more samples are represented in the table below. If an analyte was non-detect in every sample, it is not present in the table. Please refer to the lab results in the appendix to view those results. Analytes exceeding the NYSDEC standard are bolded and the cells highlighted.

TABLE 3 – SUMMARY OF ENVIRONMENTAL LABORATORY TESTING

Analyte	NYSDEC Unrestricted Use Soil Cleanup Objective (ppm)	Environmental Laboratory Analytical Results (mg/kg)													
		LMSB-1	LMSB-2	LMSB-3	LMSB-4	LMSB-5	LMSN-6	LMSB-7	LMSB-8	LMSB-9	LMSB-10	LMSB-11	LMSB-12	LMSB-13	LMSB-14
Volatiles															
Acetone	0.05	U	U	U	U	0.010J	U	0.041	**0.121**	0.015	U	U	U	0.006	U
2-Butanone	0.12	U	U	U	U	U	U	0.006J	**0.012**	U	U	U	U	U	U
Chloroform	0.37	U	U	0.001J	0.001J	0.001J	0.001J	0.001J	0.008	U	U	0.001	0.001	0.0001	U
Methylene Chloride	0.05	0.01	0.023	0.012	0.019	0.014	0.011	0.014	U	0.034	0.031	0.023	0.013	0.010	0.024
1,2,3 Trichlorobenzene[1]	0.33	0.0007J	0.002	U	U	U	U	U	U	U	U	U	U	U	U
1,2,4 Trichlorobenzene	None	0.0007J	0.001	U	U	U	U	U	U	U	U	U	U	U	U
Semivolatiles															
Acenaphthylene	100	U	U	U	U	U	U	U	U	U	U	U	0.065J	U	U
Anthracene	100	U	U	U	U	U	U	U	U	U	U	U	0.025J	U	U
Benzo(a)anthracene	1	U	U	U	U	U	U	U	U	0.036	U	0.130J	0.128	U	U
Benzo(a)pyrene	1	U	U	U	U	U	U	U	U	U	U	0.223J	0.220	U	U
Benzo(b)fluoranthene	1	U	U	U	U	U	U	U	U	0.044	U	0.180J	0.251	U	U
Benzo(g,h,i)perylene	100	U	U	U	U	U	U	U	U	U	U	0.948	0.187	U	U
Benzo(k)fluoranthene	0.8	U	U	U	U	U	U	U	U	U	U	U	0.093J	U	U
Chrysene	1	U	U	U	U	U	U	U	U	U	U	U	0.118	U	U
Dibenzo(a,h)anthracene	0.33	U	U	U	U	U	U	U	U	U	U	U	0.042	U	U
Fluoranthene	100	U	U	U	U	U	U	U	U	0.069	U	U	0.102	U	U
Indeno(1,2,3-cd)pyrene	0.5	U	U	U	U	U	U	U	U	U	U	0.241J	0.189	U	U
Phenanthrene	100	U	U	U	U	U	U	U	U	0.044J	U	U	U	U	U
Pyrene	100	U	U	U	U	U	U	U	U	0.058J	U	0.157J	0.127	U	U
Metals															
Aluminum	None	3300	3560	5850	7950	8940	4310	5180	5790	5960	3970	3280	4930	4010	2620
Antimony	None	U	U	U	U	U	U	U	U	U	U	1.8	U	U	U
Arsenic	13	2.5	3.1	4.6	5.1	5.0	3	4.2	4.1	6.3	2.6	6.7	4.0	2.3	1.1J
Barium	350	26.7	25.9	44.5	69.7	47.4	35.4	41.3	42.7	142	61.3	180	40.9	45.5	23.8
Beryllium	7.2	0.30J	0.40J	0.38J	0.63J	0.47J	0.23J	0.35J	0.37J	0.52J	0.35J	0.23J	0.28J	0.19J	U
Cadmium	2.5	U	U	U	U	U	U	U	U	0.37J	U	0.64	U	U	U
Calcium	None	160	220	322	311	697	120	153	111	556	202	3450	268	606	330
Total Chromium	1[2]	**3.4**	**4.1**	**7.1**	**24.1**	**9.7**	**4.8**	**8.5**	**6.2**	**6.4**	**3.7**	**6.6**	**5.1**	**5.6**	**3.2**
Hexavalent Chromium	1	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trivalent Chromium	30	3.4	4.1	7.1	24.1	9.7	4.8	8.5	6.2	6.4	3.7	6.6	5.1	5.6	3.2
Cobalt	None	3.2	4.0	6.3	9.0	9.3	4.3	5.6	6.1	7.2	5.0	3.7	4.9	4.1	2.3J
Copper	50	3.5	4.5	14	20.9	9.7	6.0	9.0	6.8	13.8	5.1	34.3	6.1	10.1	3.6
Iron	None	8420	8920	13500	23100	18100	9110	13000	12800	13000	7510	8210	10700	9490	5560
Lead	63	3.8	5.2	9.6	15.2	11.8	9.4	9.6	8.2	29.7	6.6	156	7.9	13.5	6.2
Magnesium	None	1430	1590	2200	3360	3060	1400	1980	1690	1890	1230	1340	1630	1700	1120
Manganese	1600	160	196	640	1190	356	278	660	667	1310	670	377	615	528	91.1
Mercury	0.18	0.038J	0.035J	0.074J	U	0.086J	0.054J	0.042J	0.048J	0.11J	U	0.074J	0.050J	U	0.048J

Analyte	**NYSDEC Unrestricted Use Soil Cleanup Objective (ppm)**	**Environmental Laboratory Analytical Results (mg/kg)**													
		LMSB-1	**LMSB-2**	**LMSB-3**	**LMSB-4**	**LMSB-5**	**LMSN-6**	**LMSB-7**	**LMSB-8**	**LMSB-9**	**LMSB-10**	**LMSB-11**	**LMSB-12**	**LMSB-13**	**LMSB-14**
Nickel	30	6.9	8.6	11	26.5	12	6.5	11.8	8.7	9.5	5.6	8.2	8.6	8.6	5.2
Potassium	None	563	495	796	1430	735	450	718	514	558	343	485	442	658	362
Selenium	3.9	U	U	1.1J	U	1.8J	U	U	1.1J	1.4J	U	U	U	U	U
Sodium	None	14.9J	10.3J	17.8J	33.8J	19.4J	16.9J	17.3J	12.4J	15.2J	10.9J	22.4J	8.2J	52.8	68.1
Vanadium	None	3.5	3.9	5.6	7.7	9.1	4.7	5.2	6.0	7.3	3.8	8.4	4.9	3.8	2.6
Zinc	109	25.6	29.6	40.8	51.4	45.2	28.1	38.9	33.6	51.6	22.7	312	29.6	37.6	20.5

J – Indicates an estimated value between the Method Detection Limit and the Practical Quantitation Limit for the analyte.
U – Non-detect
1 – Listed in NYSCEC Unrestricted Use Soil Cleanup Objective as Hexachlorobenzene, a synonym.
2 - Lab results for Chromium are presented as Total Chromium. New York State does not provide a limit for Total Chromium, only for Hexavalent and Trivalent Chromium. We chose the most stringent, Hexavalent, to use as our limit in the table. Just be aware that it is not a direct comparison.

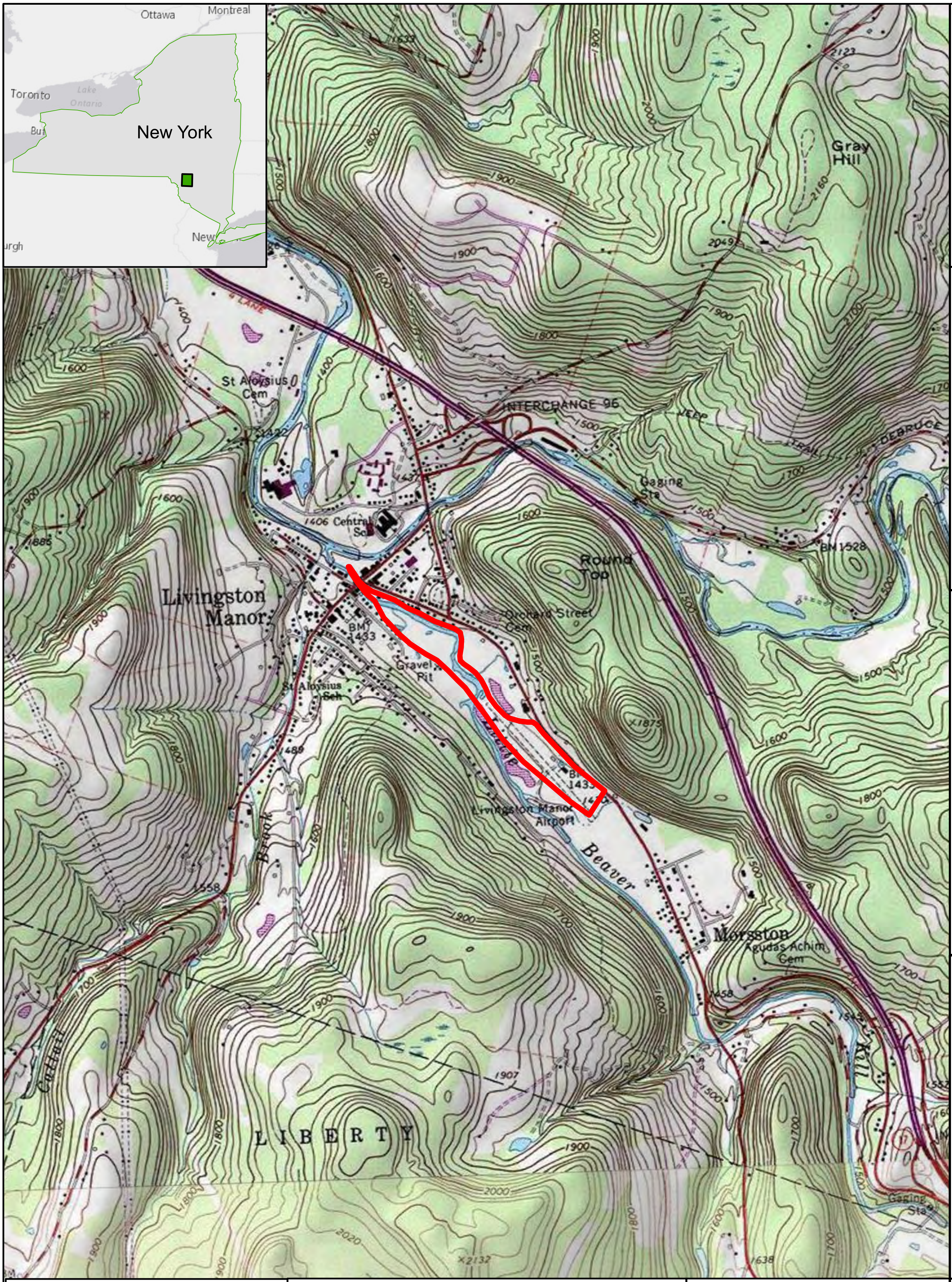
Parameter	**Cornell Soil Fertility Laboratory Analytical Results (mg/kg or % where appropriate)**													
	LMSB-1	**LMSB-2**	**LMSB-3**	**LMSB-4**	**LMSB-5**	**LMSN-6**	**LMSB-7**	**LMSB-8**	**LMSB-9**	**LMSB-10**	**LMSB-11**	**LMSB-12**	**LMSB-13**	**LMSB-14**
Moisture (%)	0.84	0.83	0.51	0.40	0.99	0.57	0.36	0.45	0.38	0.43	0.33	0.16	0.11	0.12
pH	4.10	4.30	4.67	5.02	4.88	4.50	4.37	4.36	4.82	4.21	5.69	4.92	7.46	6.64
pH buffer	5.37	5.59	5.82	5.88	5.65	5.80	5.83	5.72	5.77	5.71	6.21	6.20	-	-
LOI (%)	4.11	4.63	2.29	2.34	5.87	3.03	2.10	1.87	2.97	1.95	6.00	0.93	0.75	0.81
Organic Matter (%)	2.65	3.01	1.37	1.41	3.88	1.89	1.24	1.08	1.85	1.13	3.97	0.42	0.29	0.34
Aluminum	82.41	86.28	51.77	49.67	84.57	75.63	71.78	74.30	77.31	77.87	15.43	37.68	40.19	14.33
Arsenic	0.25	0.28	0.18	0.19	0.25	0.24	0.24	0.21	0.22	0.22	0.26	0.16	0.18	0.20
Boron	0.04	0.03	0.01	0.03	0.06	0.03	0.05	0.00	0.01	0.00	0.06	0.00	0.94	0.03
Barium	21.81	17.22	19.05	21.85	13.02	16.08	9.53	12.84	13.32	22.68	18.97	10.56	21.72	14.02
Beryllium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	139.15	88.21	321.03	232.42	592.96	141.39	32.35	95.52	154.73	123.15	848.24	159.94	427.57	450.20
Cadmium	0.07	0.05	0.09	0.05	0.11	0.05	0.03	0.02	0.07	0.01	0.09	0.01	0.04	0.02
Cobalt	0.07	0.33	0.02	0.02	0.03	0.06	0.15	0.09	0.02	0.01	0.00	0.00	0.25	0.00
Chromium	0.09	0.13	0.06	0.03	0.07	0.11	0.13	0.08	0.05	0.07	0.01	0.00	0.56	0.07
Copper	0.24	0.21	0.29	0.56	0.22	0.23	0.51	0.10	0.29	0.36	0.68	0.10	0.49	0.75
Magnesium	15.92	17.48	15.01	32.73	45.34	12.16	11.27	14.75	12.51	2.96	32.88	7.23	34.59	21.82
Manganese	28.32	113.8	12.74	23.38	12.45	37.08	37.33	36.42	31.57	7.09	5.31	3.60	110.9	9.69
Molybdenum	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	-0.01	-0.01	0.01	-0.01
Sodium	19.99	23.71	14.80	16.74	21.92	23.83	16.90	15.56	16.13	18.80	16.56	12.95	94.57	61.18
Nickel	0.31	0.25	0.21	0.29	0.14	0.24	0.23	0.14	0.21	0.09	0.17	0.01	1.25	0.06
Phosphorus	13.76	14.48	3.89	3.54	4.91	8.28	17.17	5.36	7.49	9.14	12.96	3.36	2.09	8.21
Lead	1.61	2.43	2.06	1.04	3.78	1.23	1.51	0.47	0.81	0.26	10.17	0.31	5.25	2.22
Sulfur	16.53	20.21	5.29	5.04	24.19	9.96	8.75	51.10	24.70	19.64	6.66	4.41	6.59	3.84
Iron	46.76	43.39	15.52	13.67	23.56	58.99	97.87	41.11	27.94	19.88	4.28	7.04	172.6	8.55
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	39.24	56.13	23.77	46.09	59.48	16.79	32.59	20.62	17.90	10.36	22.51	10.22	48.12	19.16
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.11	0.15	0.08	0.08	0.11	0.10	0.09	0.08	0.10	0.09	0.07	0.07	0.10	0.07
Silicon	3.39	3.38	2.46	3.56	5.29	5.16	5.55	8.99	4.12	7.63	3.38	2.71	28.74	7.18
Strontium	0.88	0.48	1.36	1.26	3.17	0.95	0.23	0.47	0.80	0.91	4.05	0.60	1.70	3.24
Titanium	0.06	0.08	0.01	0.01	0.04	0.10	0.13	0.01	0.04	0.01	0.00	0.00	0.00	0.00
Thallium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	1.98	1.69	4.40	2.85	5.35	0.82	0.86	0.42	2.31	0.55	37.04	0.32	2.86	1.58

6.0 SUMMARY

Geotechnical evaluations of the on-site soils indicate that gravel, sand, and silt are the prevalent soils within the study area. In-situ densities range from loose to very dense, with most soils being medium dense to dense. Laboratory classifications of the soils are: Well graded GRAVEL with silt and sand (GW-GM), Poorly graded GRAVEL with silt and sand (GP-GM), Silty GRAVEL with sand (GM), Silty SAND (SM), silty SAND with gravel (SM), Poorly graded SAND with silt and gravel (SP-SM), and sandy SILT (ML).

Environmental testing and evaluation of the soils indicate that no chemical contaminants of concern were encountered in any of the borings. No visual evidence of contamination was observed and analytical results indicated there were no chemical concentrations of contaminants above cleanup thresholds.

The evaluations and summaries provided in this report are based on the information available to GTS at the time of the writing of this report and the on-site surface and subsurface conditions that existed at the time the investigation was performed. If conditions that are encountered during subsequent investigations/construction that vary significantly from those reported therein, the Geotechnical Engineer should be contacted immediately so that the impact of any unanticipated conditions can be properly evaluated.



Legend

▭ Study Area

Service Layer Credits: Base Map Taken From USGS Quadrangle Livingston Manor, NY (1982)

0 750 1,500 3,000 Feet

N

GTS TECHNOLOGIES

DATE: April 2015

GTS FILE: Locator_1.pdf

SCALE: As Shown

SHEET: Figure 1

Task Order 0001-Preliminary Investigation for the Livingston Manor Flood Protection Project, Sullivan County, New York

PROJECT LOCATION MAP

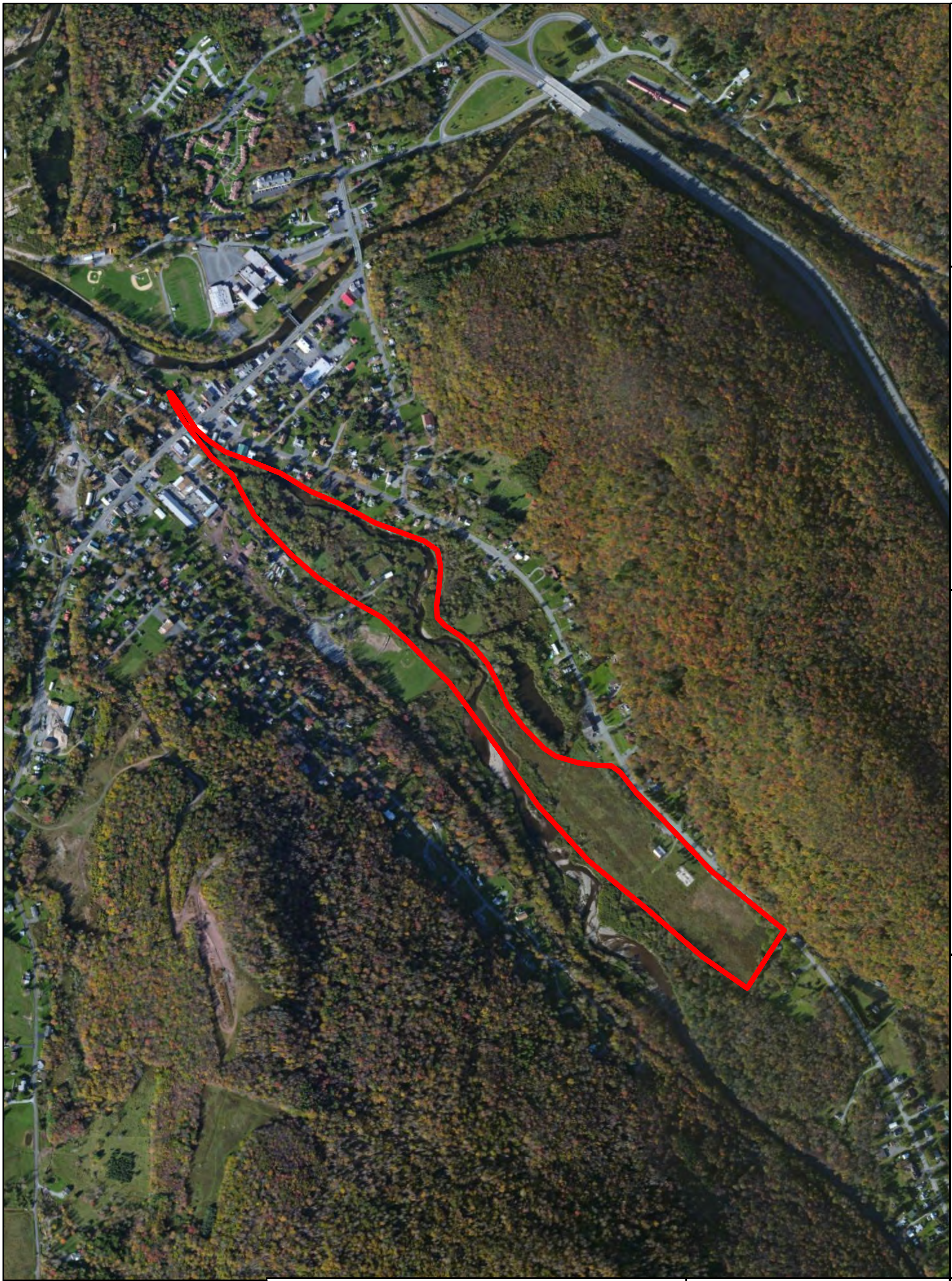
BASEMAP: USA Topo & Canvas/World Light Gray Base

DRAWN BY: KAK

CHECKED BY: MAM

REVISED:

Document Path: M:\14000\14003_USACE Geotechnical\Geo-Environmental IDC\T0001-Livingston\GIS\Report Figures\Location Map.mxd



GTS TECHNOLOGIES

Task Order 0001-Preliminary Investigation for the Livingston Manor Flood Protection Project, Sullivan County, New York

PROJECT STUDY AREA

DATE: April 2015
GTS FILE: Locator_2.pdf
SCALE: As Shown
SHEET: Figure 2

BASEMAP: ESRI Aerial Imagery
DRAWN BY: KAK
CHECKED BY: MAM
REVISED:

Legend

▭ Study Area

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 250 500 1,000 Feet

N

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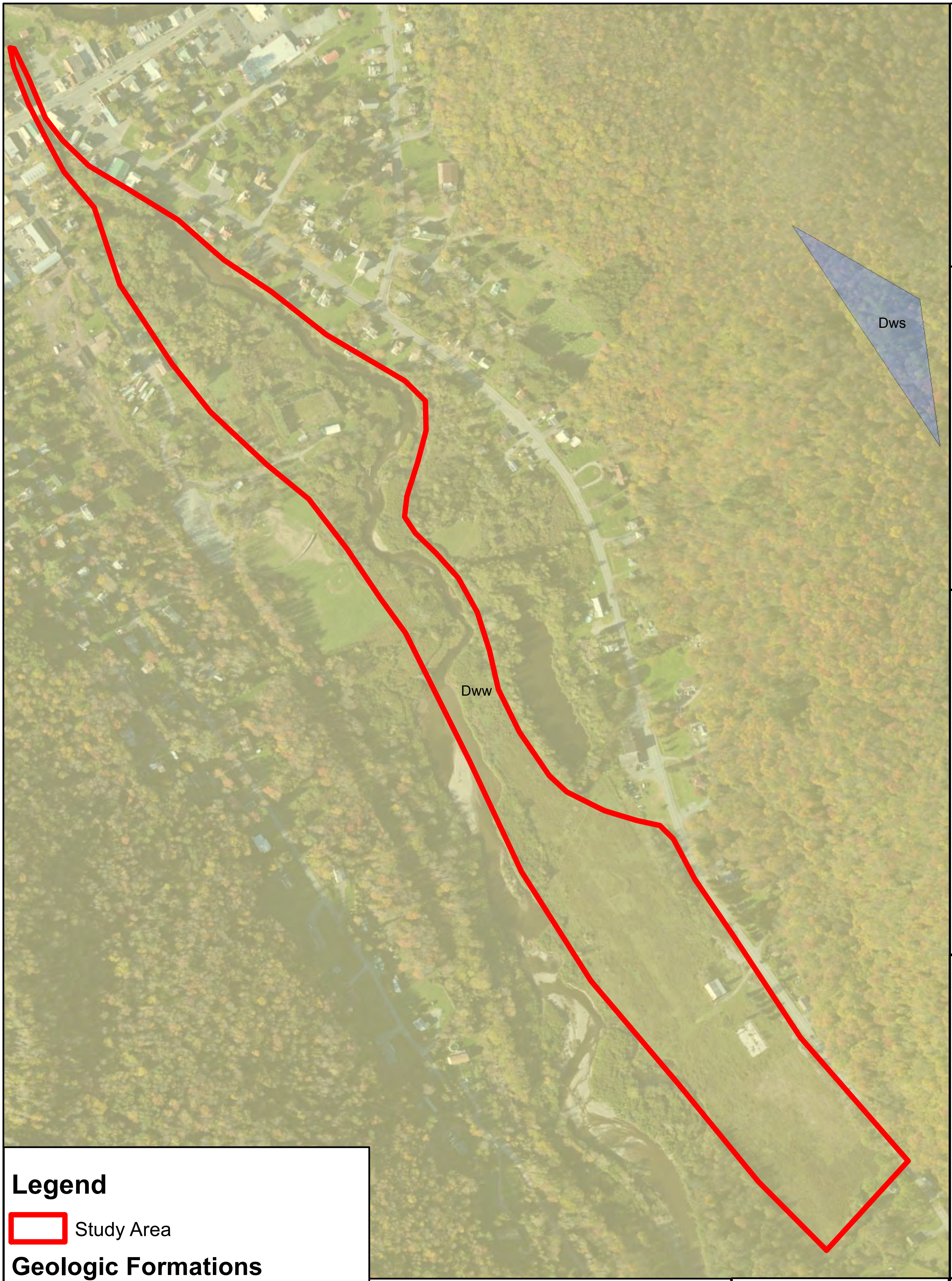


Legend

🟥 Study Area

Geologic Formations

🟦 Dws - Slide Mountain Formation

🟨 Dww - Upper Walton Formation

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 250 500
Feet

GTS TECHNOLOGIES

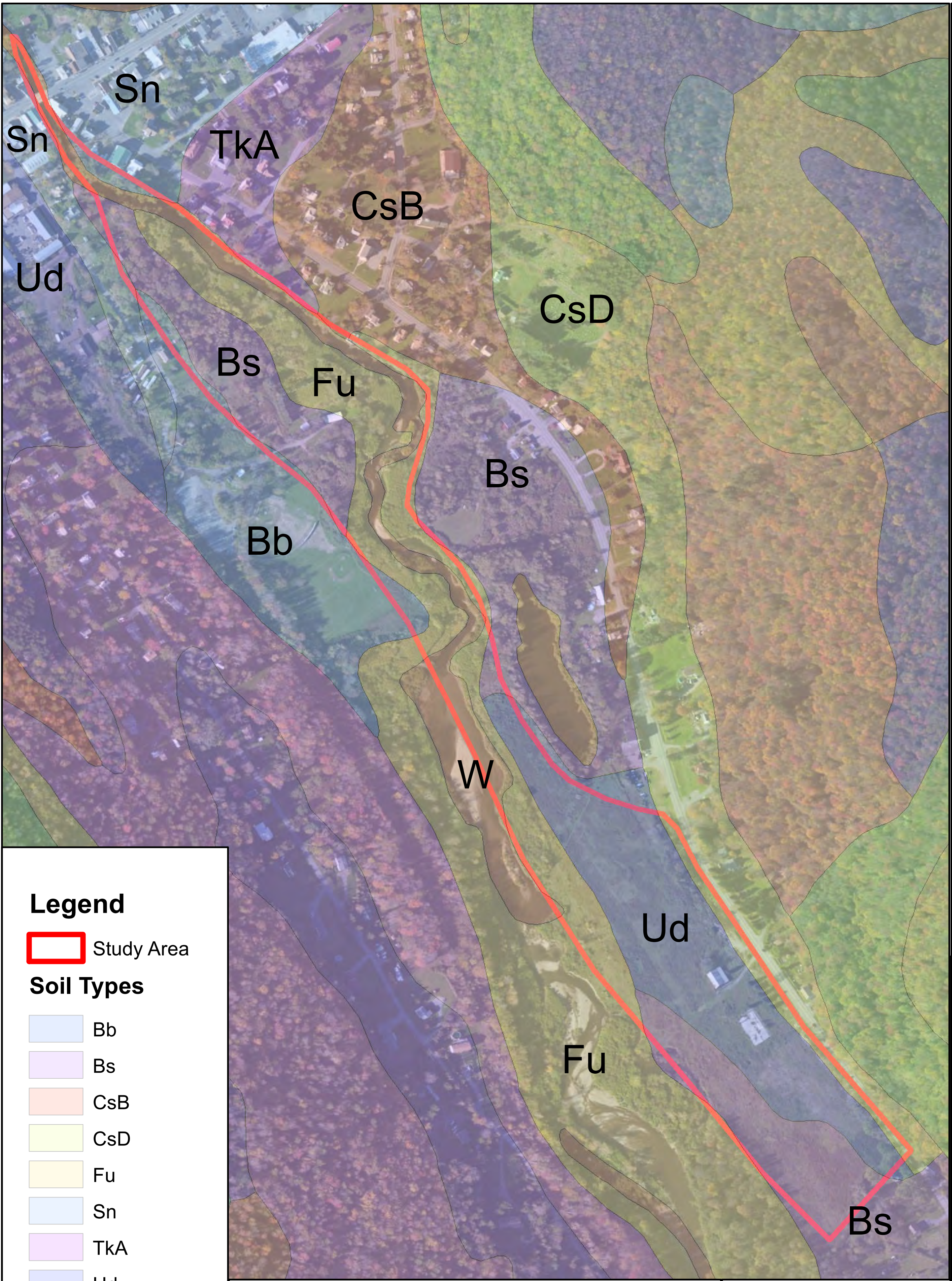
DATE: April 2015
GTS FILE: Geology Map.pdf
SCALE: As Shown
SHEET: Figure 3

Task Order 0001-Preliminary Investigation for the Livingston Manor Flood Protection Project, Sullivan County, New York

GEOLOGY MAP

BASEMAP: ESRI Aerial Imagery
DRAWN BY: KAK
CHECKED BY: MAM
REVISED:

Document Path: M:\14000\14003_USACE Geotechnical\Geo-Environmental IDC\TO0001-Livingston\GIS\Report Figures\Geology Map.mxd



Legend

▭ Study Area

Soil Types

- ▨ Bb
- ▨ Bs
- ▨ CsB
- ▨ CsD
- ▨ Fu
- ▨ Sn
- ▨ TkA
- ▨ Ud
- ▨ W

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0 250 500 Feet

N

GTS TECHNOLOGIES

DATE: April 2015
GTS FILE: Soils Map.pdf
SCALE: As Shown
SHEET: Figure 4

Task Order 0001-Preliminary Investigation for the Livingston Manor Flood Protection Project, Sullivan County, New York

SOILS MAP

BASEMAP: ESRI Aerial Imagery
DRAWN BY: KAK
CHECKED BY: MAM
REVISED:

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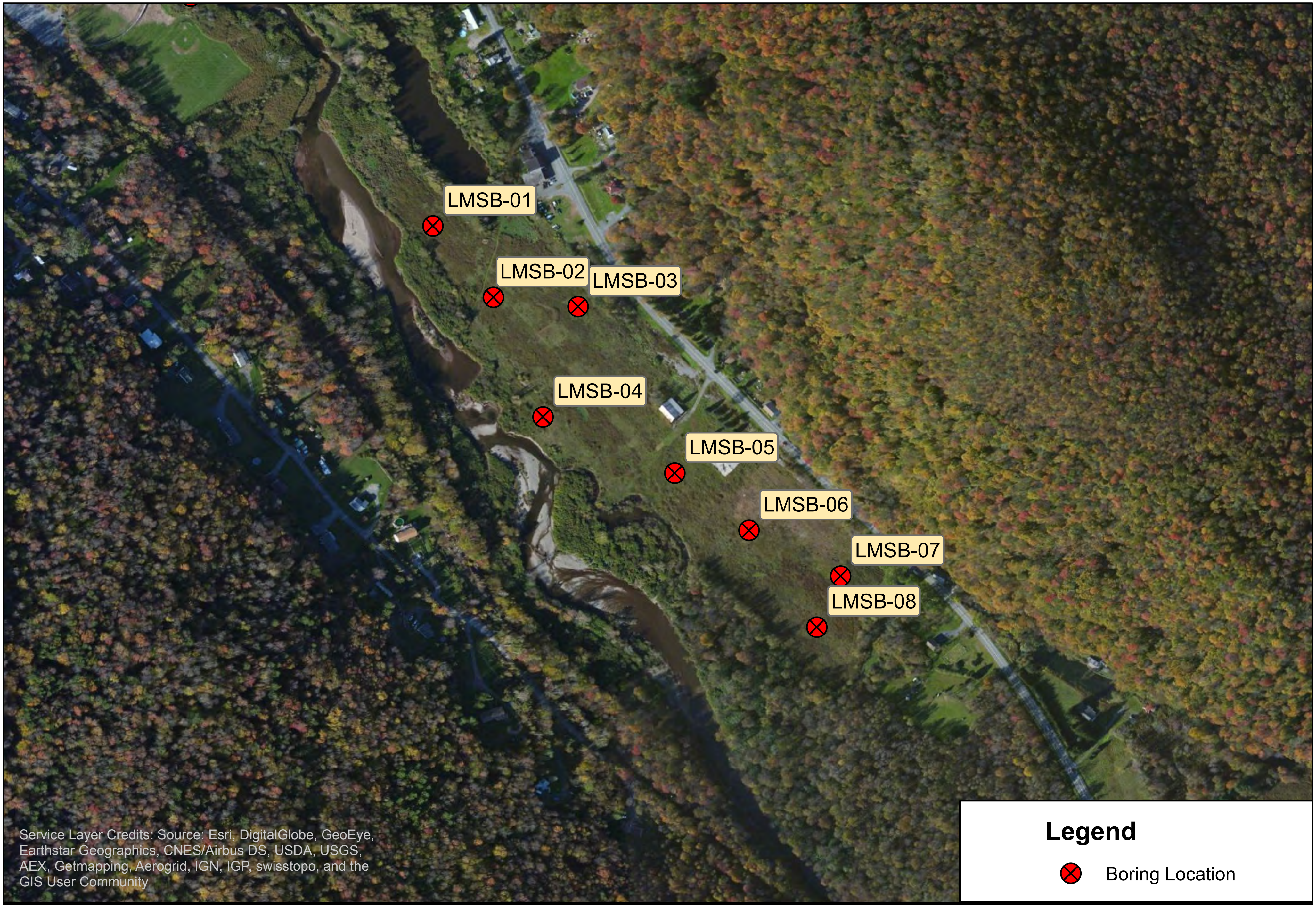

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

GTS TECHNOLOGIES

BASEMAP: ESRI Aerial Imagery
DRAWN BY: KAK
CHECKED BY: MAM
REVISED:

Task Order 0001-Preliminary Investigation for the Livingston Manor Flood Protection Project, Sullivan County, New York

BORING LOCATION PLAN - AIRPORT AREA

DATE: April 2015
GTS FILE: Airport Area.pdf
SCALE: As Shown
SHEET: Figure 5A

0 100 200 400 Feet

N

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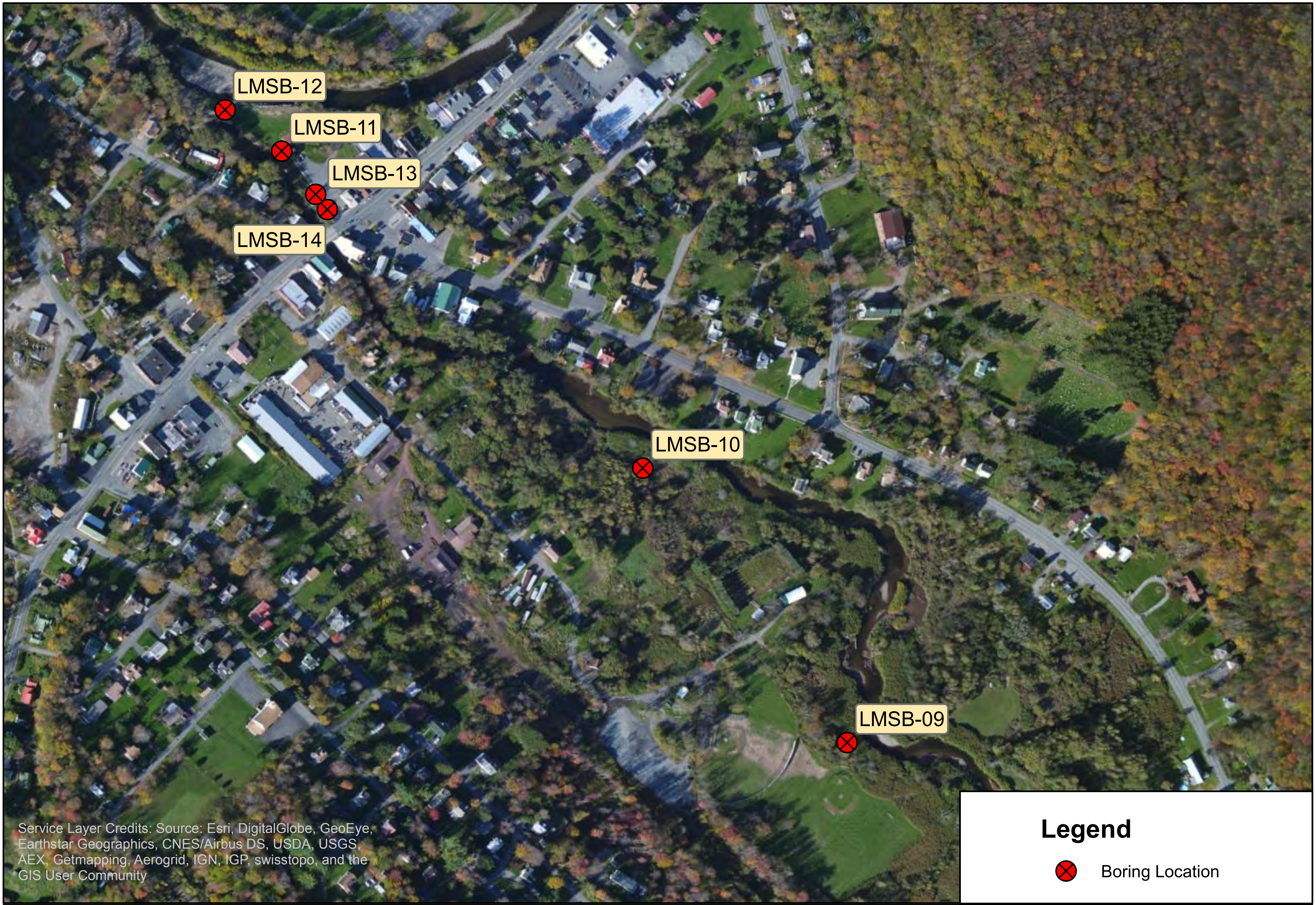
Document Path: M:\14000\14003_USACE GeotechnicalGeo-Environmental IDC\T0001-Livingston\GIS\Report Figures\Boring Location Pearl St.mxd



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

GTS TECHNOLOGIES

BASEMAP: ESRI Aerial Imagery
DRAWN BY: KAK
CHECKED BY: MAM
REVISED:

Task Order 0001-Preliminary Investigation
for the Livingston Manor Flood Protection Project,
Sullivan County, New York

BORING LOCATION PLAN - PEARL STREET AREA

DATE: April 2015
GTS FILE: Pearl Street Area.pdf
SCALE: As Shown
SHEET: Figure 5B

0 100 200 400 Feet

N

APPENDIX A

TYPED BORING LOGS

DRILLING LOG

DIVISION Philadelphia

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT Livingston Manor Feasibility Study

9. COORDINATE SYSTEM State Plane | HORIZONTAL NAD83 | VERTICAL NAVD88

10. SIZE AND TYPE OF BIT HSA: 4.25" I.D.

2. HOLE NUMBER LMSB-1 | LOCATION COORDINATES N 1,115,217.0 E 404,857.0

11. MANUFACTURER'S DESIGNATION OF DRILL Dietrich D50 Track

3. DRILLING AGENCY SJB Services, Inc.

12. TOTAL SAMPLES | DISTURBED 4 | UNDISTURBED 0

4. NAME OF DRILLER B. Delude

13. TOTAL NUMBER CORE BOXES 0

5. DIRECTION OF BORING
☒ VERTICAL
☐ INCLINED
DEG FROM VERTICAL ---
BEARING

14. ELEVATION GROUND WATER

15. DATE BORING | STARTED 3/17/15 | COMPLETED 3/17/15

6. THICKNESS OF OVERBURDEN

16. ELEVATION TOP OF BORING 1422.9

7. DEPTH DRILLED INTO ROCK

17. TOTAL CORE RECOVERY FOR BORING N/A

8. TOTAL DEPTH OF BORING 8.0

18. SIGNATURE AND TITLE OF INSPECTOR E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Laboratory Sand	Laboratory Fines	Laboratory LL	Laboratory PI	Laboratory MC	Laboratory ASTM Class	REMARKS	
		4			•	**0' to 4':** POORLY GRADED SAND (SP), brown, loose.	85	S-1									0.0
		2			•												
		3			•											S-1: Soil fertility sample collected	
		3	5	7	•												
		4			•		100	S-2									
		2			•												2.5
		1			•											S-2: Environmental sample collected	
1418.9	4.0	4	3	4	•												
		9			•	**4' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown with black and olive gray, medium dense to dense.	65	S-3									
		10			•												
		9			•												5.0
		11	19	25	•												
		12			•		70	S-4									
		31			•												
		16			•											No PID readings greater than 0.1 ppm	
1414.9	8.0	13	47	63	•												7.5

Bottom of hole at 8 feet.

DRILLING LOG

DIVISION: Philadelphia

INSTALLATION:

SHEET 1 OF 1 SHEETS

1. PROJECT: Livingston Manor Feasibility Study
2. HOLE NUMBER: LMSB-2
   LOCATION COORDINATES: N 1,114,971.0 E 405,046.0
3. DRILLING AGENCY: SJB Services, Inc.
4. NAME OF DRILLER: B. Delude
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED
   DEG FROM VERTICAL: ---
   BEARING:
6. THICKNESS OF OVERBURDEN:
7. DEPTH DRILLED INTO ROCK:
8. TOTAL DEPTH OF BORING: 8.0
9. COORDINATE SYSTEM: State Plane
   HORIZONTAL: NAD83
   VERTICAL: NAVD88
10. SIZE AND TYPE OF BIT: HSA: 4.25" I.D.
11. MANUFACTURER'S DESIGNATION OF DRILL: Dietrich D50 Track
12. TOTAL SAMPLES: DISTURBED 4 UNDISTURBED 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER:
15. DATE BORING: STARTED 3/17/15 COMPLETED 3/17/15
16. ELEVATION TOP OF BORING: 1423.4
17. TOTAL CORE RECOVERY FOR BORING: N/A
18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS	
		5 6 2 2	8	11		**0' to 8':** POORLY GRADED SAND (SP), brown, moist, loose to medium dense, some gravel.	85	S-1								S-1: Soil fertility sample collected	0.0
		2 2 3 3	5	7			80	S-2	27	61	12	NP	NP	5	SP-SM	S-2: Environmental sample collected	2.5
		4 2 3 11	5	7			55	S-3	27	61	12	NP	NP	5	SP-SM	S-2 through S-4 laboratory classification = Poorly graded SAND with silt and gravel (SP-SM)	5.0
1415.4	8.0	21 15 14 11	29	39			75	S-4	27	61	12	NP	NP	5	SP-SM	No PID readings greater than 0.3 ppm	7.5

Bottom of hole at 8 feet.

Boring Designation LMSB-3

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT
Livingston Manor Feasibility Study

9. COORDINATE SYSTEM: State Plane ⋮ HORIZONTAL: NAD83 ⋮ VERTICAL: NAVD88

10. SIZE AND TYPE OF BIT: HSA: 4.25" I.D.

2. HOLE NUMBER: LMSB-3 ⋮ LOCATION COORDINATES: N 1,114,929.0 E 405,327.0

11. MANUFACTURER'S DESIGNATION OF DRILL: Dietrich D50 Track

3. DRILLING AGENCY: SJB Services, Inc.

12. TOTAL SAMPLES ⋮ DISTURBED: 4 ⋮ UNDISTURBED: 0

4. NAME OF DRILLER: B. Delude

13. TOTAL NUMBER CORE BOXES: 0

14. ELEVATION GROUND WATER

5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED ⋮ DEG FROM VERTICAL: --- ⋮ BEARING

15. DATE BORING ⋮ STARTED: 3/17/15 ⋮ COMPLETED: 3/17/15

6. THICKNESS OF OVERBURDEN

16. ELEVATION TOP OF BORING: 1425.2

7. DEPTH DRILLED INTO ROCK

17. TOTAL CORE RECOVERY FOR BORING: N/A

8. TOTAL DEPTH OF BORING: 8.0

18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class	
		6 3 2 3	5	7		**0' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray, moist to dry, loose to dense.	85	S-1								S-1: Soil fertility sample collected
		3 11 15 14	26	35			65	S-2								S-2: Environmental sample collected
		13 14 9 7	23	31			50	S-3								
1417.2	8.0	19 24 11 9	35	47			50	S-4								No PID readings greater than 0.1 ppm

Bottom of hole at 8 feet.

Boring Designation LMSB-4

DRILLING LOG

DIVISION Philadelphia

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT Livingston Manor Feasibility Study

2. HOLE NUMBER LMSB-4

LOCATION COORDINATES N 1,114,577.0 E 405,203.0

3. DRILLING AGENCY SJB Services, Inc.

4. NAME OF DRILLER B. Delude

5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED

DEG FROM VERTICAL ---

BEARING

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF BORING 8.0

9. COORDINATE SYSTEM State Plane

HORIZONTAL NAD83

VERTICAL NAVD88

10. SIZE AND TYPE OF BIT HSA: 4.25" I.D.

11. MANUFACTURER'S DESIGNATION OF DRILL Dietrich D50 Track

12. TOTAL SAMPLES

DISTURBED 4

UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES 0

14. ELEVATION GROUND WATER

15. DATE BORING STARTED 3/17/15 COMPLETED 3/17/15

16. ELEVATION TOP OF BORING 1423.8

17. TOTAL CORE RECOVERY FOR BORING N/A

18. SIGNATURE AND TITLE OF INSPECTOR E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS	
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class		
		10 37 33 23	70	93		**0' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown with olive gray and black, moist to dry, very dense to dense.	85	S-1								S-1: Soil fertility sample collected	0.0
		14 18 18 24	36	48			60	S-2	62	32	7	NP	NP	4	GP-GM	S-2: Environmental sample collected	2.5
		22 24 21 14	45	60			75	S-3	62	32	7	NP	NP	4	GP-GM	S-2 through S-4 laboratory classification = Poorly graded GRAVEL with silt and sand (GP-GM)	5.0
1415.8	8.0	24 20 13 8	33	44			60	S-4	62	32	7	NP	NP	4	GP-GM	No PID readings greater than 0.1 ppm	7.5

Bottom of hole at 8 feet.

Boring Designation LMSB-5

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT
Livingston Manor Feasibility Study

2. HOLE NUMBER
LMSB-5

LOCATION COORDINATES
N 1,114,358.0 E 405,625.0

3. DRILLING AGENCY
SJB Services, Inc.

4. NAME OF DRILLER
B. Delude

5. DIRECTION OF BORING
☒ VERTICAL
☐ INCLINED

DEG FROM VERTICAL ---

BEARING

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF BORING 8.0

9. COORDINATE SYSTEM State Plane
HORIZONTAL NAD83
VERTICAL NAVD88

10. SIZE AND TYPE OF BIT HSA: 4.25" I.D.

11. MANUFACTURER'S DESIGNATION OF DRILL
Dietrich D50 Track

12. TOTAL SAMPLES
DISTURBED 4
UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES 0

14. ELEVATION GROUND WATER

15. DATE BORING
STARTED 3/18/15
COMPLETED 3/18/15

16. ELEVATION TOP OF BORING 1426.4

17. TOTAL CORE RECOVERY FOR BORING N/A

18. SIGNATURE AND TITLE OF INSPECTOR
E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
		4				**0' to 5.5':** POORLY GRADED SAND (SP), brown, moist, loose to medium dense.										
		3					75	S-1								
		5														S-1: Soil fertility sample collected
		4	8	11												
		2														
		4					80	S-2								
		4														S-2: Environmental sample collected
		5	8	11												
		5														
		8					85	S-3								
1420.9	5.5	13														
		12	21	28		**5.5' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown, gray, and olive gray, dry to moist, very dense.										
		5														
		15					80	S-3								No PID readings greater than 0.0 ppm
		49														
1418.4	8.0	21	64	85												

Bottom of hole at 8 feet.

0.0
2.5
5.0
7.5

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT Livingston Manor Feasibility Study		9. COORDINATE SYSTEM State Plane	HORIZONTAL NAD83 / VERTICAL NAVD88
		10. SIZE AND TYPE OF BIT	HSA: 4.25" I.D.
2. HOLE NUMBER LMSB-6	LOCATION COORDINATES N 1,114,155.0 E 405,864.0	11. MANUFACTURER'S DESIGNATION OF DRILL Dietrich D50 Track	
3. DRILLING AGENCY SJB Services, Inc.		12. TOTAL SAMPLES	DISTURBED 0 / UNDISTURBED 0
4. NAME OF DRILLER B. Delude		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	DEG FROM VERTICAL --- / BEARING	14. ELEVATION GROUND WATER	1422.4 3/18/15
		15. DATE BORING	STARTED 3/18/15 / COMPLETED 3/18/15
6. THICKNESS OF OVERBURDEN		16. ELEVATION TOP OF BORING	1428.0
7. DEPTH DRILLED INTO ROCK		17. TOTAL CORE RECOVERY FOR BORING	N/A
8. TOTAL DEPTH OF BORING	8.0	18. SIGNATURE AND TITLE OF INSPECTOR E. Weltmer	

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class	
		3 1 3 3	4	5		**0' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray, moist to wet, loose to medium dense.	50	S-1								Soil fertility sample collected from cuttings.
		4 4 8 9	12	16			80	S-2	42	47	11	NP	NP	12	SP-SM	S-2: Environmental sample collected
	▼	7 10 12 9	22	29			60	S-3	42	47	11	NP	NP	12	SP-SM	S-2 through S-4 laboratory classification = Poorly graded SAND with silt and gravel (SP-SM)
1420.0	8.0	16 14 14 15	28	37			65	S-4	42	47	11	NP	NP	12	SP-SM	No PID readings greater than 0.0 ppm

0.0
2.5
5.0
7.5

Bottom of hole at 8 feet.

Boring Designation LMSB-7

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT Livingston Manor Feasibility Study	9. COORDINATE SYSTEM: State Plane; HORIZONTAL: NAD83; VERTICAL: NAVD88
	10. SIZE AND TYPE OF BIT: HSA: 4.25" I.D.
2. HOLE NUMBER: LMSB-7; LOCATION COORDINATES: N 1,113,991.0 E 406,164.0	11. MANUFACTURER'S DESIGNATION OF DRILL Dietrich D50 Track
3. DRILLING AGENCY SJB Services, Inc.	12. TOTAL SAMPLES: DISTURBED 4; UNDISTURBED 0
4. NAME OF DRILLER B. Delude	13. TOTAL NUMBER CORE BOXES 0
	14. ELEVATION GROUND WATER 1424.0 3/18/15
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED DEG FROM VERTICAL: --- BEARING:	15. DATE BORING: STARTED 3/18/15; COMPLETED 3/18/15
6. THICKNESS OF OVERBURDEN	16. ELEVATION TOP OF BORING 1429.8
7. DEPTH DRILLED INTO ROCK	17. TOTAL CORE RECOVERY FOR BORING N/A
8. TOTAL DEPTH OF BORING 8.0	18. SIGNATURE AND TITLE OF INSPECTOR E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class	
		1 2 4 6	6	8		**0' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray with black, moist to wet, loose to medium dense.	65	S-1								
		13 11 7 12	18	24			70	S-2								Soil fertility and environmental samples collected from cuttings
	▼	16 12 9 10	21	28			60	S-3								
1421.8	8.0	11 13 13 10	26	35			50	S-4								No PID readings greater than 0.1 ppm

Bottom of hole at 8 feet.

0.0

2.5

5.0

7.5

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

SPK FORM 1836
SEP 05

Boring Designation LMSB-8

DRILLING LOG

DIVISION: Philadelphia

INSTALLATION:

SHEET 1 OF 1 SHEETS

1. PROJECT: Livingston Manor Feasibility Study
2. HOLE NUMBER: LMSB-8 ⋮ LOCATION COORDINATES: N 1,113,823.0 E 406,074.0
3. DRILLING AGENCY: SJB Services, Inc.
4. NAME OF DRILLER: B. Delude
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED ⋮ DEG FROM VERTICAL: --- ⋮ BEARING:
6. THICKNESS OF OVERBURDEN:
7. DEPTH DRILLED INTO ROCK:
8. TOTAL DEPTH OF BORING: 8.0
9. COORDINATE SYSTEM: State Plane ⋮ HORIZONTAL: NAD83 ⋮ VERTICAL: NAVD88
10. SIZE AND TYPE OF BIT: HSA: 4.25" I.D.
11. MANUFACTURER'S DESIGNATION OF DRILL: Dietrich D50 Track
12. TOTAL SAMPLES ⋮ DISTURBED: 4 ⋮ UNDISTURBED: 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER: 1424.3 3/15/15
15. DATE BORING ⋮ STARTED: 3/18/15 ⋮ COMPLETED: 3/18/15
16. ELEVATION TOP OF BORING: 1429.5
17. TOTAL CORE RECOVERY FOR BORING: N/A
18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS	
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class		
		2 2 4 2	6	8		**0' to 8':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray, moist to wet, loose to medium dense.	60	S-1									0.0
		6 13 9 16	22	29			65	S-2	47	42	11	NP	NP	11	GP-GM	Soil fertility and environmental samples collected from cuttings	2.5
	▼	15 10 4 5	14	19			55	S-3	47	42	11	NP	NP	11	GP-GM	S-2 through S-4 laboratory classification = Poorly graded GRAVEL with silt and sand (GP-GM)	5.0
1421.5	8.0	7 9 12 14	21	28			60	S-4	47	42	11	NP	NP	11	GP-GM	No PID readings greater than 0.1 ppm	7.5

Bottom of hole at 8 feet.

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

DRILLING LOG

DIVISION Philadelphia

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT Livingston Manor Feasibility Study

2. HOLE NUMBER LMSB-9

LOCATION COORDINATES N 1,116,008.0 E 404,057.0

3. DRILLING AGENCY GTS Technologies, Inc.

4. NAME OF DRILLER R. Wolcott

5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED

DEG FROM VERTICAL ---

BEARING

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF BORING 4.0

9. COORDINATE SYSTEM State Plane

HORIZONTAL NAD83

VERTICAL NAVD88

10. SIZE AND TYPE OF BIT Solid Flight Auger: 4" I.D.

11. MANUFACTURER'S DESIGNATION OF DRILL Bobcat

12. TOTAL SAMPLES

DISTURBED 0

UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES 0

14. ELEVATION GROUND WATER

15. DATE BORING

STARTED 3/18/15

COMPLETED 3/18/15

16. ELEVATION TOP OF BORING 1418.3

17. TOTAL CORE RECOVERY FOR BORING N/A

18. SIGNATURE AND TITLE OF INSPECTOR E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class	
						0' to 4': POORLY GRADED SAND WITH SILT (SP-SM), brown, moist.			1	62	37	NP	NP	32	SM	Bag sample laboratory classification = silty SAND (SM) No PID readings greater than 0.1 ppm
1414.3	4.0															

Bottom of hole at 4 feet.

0.0

2.5

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

Boring Designation LMSB-10

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Livingston Manor Feasibility Study
2. HOLE NUMBER: LMSB-10 — LOCATION COORDINATES: N 1,116,774.0 E 403,631.0
3. DRILLING AGENCY: GTS Technologies, Inc.
4. NAME OF DRILLER: R. Wolcott
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED — DEG FROM VERTICAL: --- — BEARING:
6. THICKNESS OF OVERBURDEN:
7. DEPTH DRILLED INTO ROCK:
8. TOTAL DEPTH OF BORING: 4.0
9. COORDINATE SYSTEM: State Plane — HORIZONTAL: NAD83 — VERTICAL: NAVD88
10. SIZE AND TYPE OF BIT: Solid Flight Auger: 4" I.D.
11. MANUFACTURER'S DESIGNATION OF DRILL: Bobcat
12. TOTAL SAMPLES: — DISTURBED: 0 — UNDISTURBED: 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER:
15. DATE BORING: STARTED 3/18/15 — COMPLETED 3/18/15
16. ELEVATION TOP OF BORING: 1417.2
17. TOTAL CORE RECOVERY FOR BORING: N/A
18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class	
						0' to 4': POORLY GRADED SAND WITH SILT (SP-SM), brown, moist.			0	37	63	NP	NP	40	ML	Bag sample laboratory classification = sandy SILT (ML) No PID readings greater than 0.1 ppm
1413.2	4.0															

Bottom of hole at 4 feet.

0.0
2.5

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

DRILLING LOG

DIVISION: Philadelphia

INSTALLATION:

SHEET 1 OF 1 SHEETS

1. PROJECT: Livingston Manor Feasibility Study
2. HOLE NUMBER: LMSB-11 — LOCATION COORDINATES: N 1,117,691.0 E 402,576.0
3. DRILLING AGENCY: GTS Technologies, Inc.
4. NAME OF DRILLER: R. Wolcott
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED — DEG FROM VERTICAL: --- — BEARING:
6. THICKNESS OF OVERBURDEN:
7. DEPTH DRILLED INTO ROCK:
8. TOTAL DEPTH OF BORING: 4.0
9. COORDINATE SYSTEM: State Plane — HORIZONTAL: NAD83 — VERTICAL: NAVD88
10. SIZE AND TYPE OF BIT: Solid Flight Auger: 4" I.D.
11. MANUFACTURER'S DESIGNATION OF DRILL: Bobcat
12. TOTAL SAMPLES: — DISTURBED: 0 — UNDISTURBED: 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER:
15. DATE BORING: STARTED: 3/18/15 — COMPLETED: 3/18/15
16. ELEVATION TOP OF BORING: 1417.9
17. TOTAL CORE RECOVERY FOR BORING: N/A
18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS	
						0' to 4': POORLY GRADED SAND (SP), brown, moist.											0.0
									28	57	16	NP	NP	17	SM	Bag sample laboratory classification = silty SAND with gravel (SM)	2.5
1413.9	4.0															No PID readings greater than 0.0 ppm	

Bottom of hole at 4 feet.

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

Boring Designation LMSB-12

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT
Livingston Manor Feasibility Study

2. HOLE NUMBER
LMSB-12

LOCATION COORDINATES
N 1,117,788.0 E 402,434.0

3. DRILLING AGENCY
GTS Technologies, Inc.

4. NAME OF DRILLER
R. Wolcott

5. DIRECTION OF BORING
☒ VERTICAL
☐ INCLINED

DEG FROM VERTICAL

BEARING

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF BORING 4.0

9. COORDINATE SYSTEM
State Plane

HORIZONTAL
NAD83

VERTICAL
NAVD88

10. SIZE AND TYPE OF BIT Solid Flight Auger: 4" I.D.

11. MANUFACTURER'S DESIGNATION OF DRILL
Bobcat

12. TOTAL SAMPLES

DISTURBED
0

UNDISTURBED
0

13. TOTAL NUMBER CORE BOXES 0

14. ELEVATION GROUND WATER

15. DATE BORING

STARTED
3/18/15

COMPLETED
3/18/15

16. ELEVATION TOP OF BORING 1416.3

17. TOTAL CORE RECOVERY FOR BORING N/A

18. SIGNATURE AND TITLE OF INSPECTOR
E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory							REMARKS	
									Gravel	Sand	Fines	LL	PI	MC	ASTM Class		
						0' to 4': POORLY GRADED SAND WITH GRAVEL (SP), dark brown, moist, with cobbles.											0.0
									4	66	30	NP	NP	19	SM	Bag sample laboratory classification = silty SAND (SM)	2.5
1412.3	4.0															No PID readings greater than 0.2 ppm	

Bottom of hole at 4 feet.

Boring Designation LMSB-13

DRILLING LOG	DIVISION Philadelphia	INSTALLATION	SHEET 1 OF 2 SHEETS

1. PROJECT
Livingston Manor Feasibility Study

2. HOLE NUMBER: LMSB-13 | LOCATION COORDINATES: N 1,117,507.0 E 402,704.0

3. DRILLING AGENCY
SJB Services, Inc.

4. NAME OF DRILLER
B. Delude

5. DIRECTION OF BORING
☒ VERTICAL
☐ INCLINED
DEG FROM VERTICAL: ---
BEARING:

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF BORING 28.8

9. COORDINATE SYSTEM: State Plane | HORIZONTAL: NAD83 | VERTICAL: NAVD88

10. SIZE AND TYPE OF BIT HSA: 4.25" I.D.

11. MANUFACTURER'S DESIGNATION OF DRILL
Dietrich D50 Track

12. TOTAL SAMPLES | DISTURBED 14 | UNDISTURBED 0

13. TOTAL NUMBER CORE BOXES 0

14. ELEVATION GROUND WATER 1411.5 3/17/15

15. DATE BORING | STARTED 3/16/15 | COMPLETED 3/16/15

16. ELEVATION TOP OF BORING 1422.3

17. TOTAL CORE RECOVERY FOR BORING N/A

18. SIGNATURE AND TITLE OF INSPECTOR
E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
1420.3	2.0					**0' to 2':** Unsampled Asphalt and Subbase.										0.0'-0.5': Unsampled Asphalt 0.5'-1.2': Unsampled Subbase material
		28 35 39 30	74	99		**2' to 5.1':** POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM), brown with black and gray, dry to moist, very dense.	85	S-1	47	43	10	NP	NP	6	GP-GM	S-1 through S-2 laboratory classification = Poorly graded GRAVEL with silt and sand (GP-GM)
1417.2	5.1	18 7		76			73	S-2	47	43	10	NP	NP	6	GP-GM	
1416.3	6.0	50/1"	57			**5.1' to 6':** No recovery.										5.1': Spoon refusal, gravel in spoon tip.
1414.3	8.0	23 43 25 28	78	104		**6' to 8':** POORLY GRADED GRAVEL WITH SAND (GP), gray, dry, very dense.	50	S-3								5.1'-8.0': Difficult augering (possible old foundation)
		13 13 14 16	27	36		**8' to 28.8':** POORLY GRADED SAND WITH GRAVEL (SP), brown with gray, black, and olive-gray, moist to wet, medium dense to very dense.	20	S-4								
	▼	9 14 9 11	23	31			60	S-5								10.0'-11.5': Environmental Sample collected
		8 10 13 16	23	31			70	S-6	57	33	10	NP	NP	11	GW-GM	
		16 19 26 29	45	60			90	S-7	57	33	10	NP	NP	11	GW-GM	S-6 through S-8 laboratory classification = Well graded GRAVEL with silt and sand (GW-GM)
		36 27 20 22	47	63			70	S-8	57	33	10	NP	NP	11	GW-GM	
		39 50/4"	50	67			100	S-9								

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

DRILLING LOG (Cont Sheet)

INSTALLATION

SHEET 2 OF 2 SHEETS

PROJECT: Livingston Manor Feasibility Study

COORDINATE SYSTEM: State Plane

HORIZONTAL: NAD83

VERTICAL: NAVD88

LOCATION COORDINATES: N 1,117,507.0 E 402,704.0

ELEVATION TOP OF BORING: 1422.3

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
	20.0	47 50 50/5"	50	67		**8' to 28.8':** POORLY GRADED SAND WITH GRAVEL (SP), brown with gray, black, and olive-gray, moist to wet, medium dense to very dense. *(continued)*	100	S-10								
	22.5	20 20 42 48	62	83			80	S-11	49	37	14	18	3	10	GM	S-11 through S-13 laboratory classification = Silty GRAVEL with sand (GM)
	25.0	37 34 21 26	55	73			70	S-12	49	37	14	18	3	10	GM	
	27.5	16 27 33 20	60	80			75	S-13	49	37	14	18	3	10	GM	S-14: Gravel in spoon tip
1393.5	28.8	26 50 50/4"	50	67			100	S-14								No PID readings greater than 0.1 ppm
						Bottom of hole at 28.8 feet.										

Boring Designation LMSB-14

DRILLING LOG

DIVISION: Philadelphia

INSTALLATION:

SHEET 1 OF 2 SHEETS

1. PROJECT: Livingston Manor Feasibility Study
2. HOLE NUMBER: LMSB-14 | LOCATION COORDINATES: N 1,117,552.0 E 402,671.0
3. DRILLING AGENCY: SJB Services, Inc.
4. NAME OF DRILLER: B. Delude
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED | DEG FROM VERTICAL: --- | BEARING:
6. THICKNESS OF OVERBURDEN:
7. DEPTH DRILLED INTO ROCK:
8. TOTAL DEPTH OF BORING: 30.0
9. COORDINATE SYSTEM: State Plane | HORIZONTAL: NAD83 | VERTICAL: NAVD88
10. SIZE AND TYPE OF BIT: HSA: 4.25" I.D.
11. MANUFACTURER'S DESIGNATION OF DRILL: Dietrich D50 Track
12. TOTAL SAMPLES: DISTURBED 14 | UNDISTURBED 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER: 1411.3 3/17/15
15. DATE BORING: STARTED 3/17/15 | COMPLETED 3/17/15
16. ELEVATION TOP OF BORING: 1422.9
17. TOTAL CORE RECOVERY FOR BORING: N/A
18. SIGNATURE AND TITLE OF INSPECTOR: E. Weltmer

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
1420.9	2.0					**0' to 2':** Unsampled Asphalt and Subbasse.										0.0'-0.5': Unsampled Asphalt 0.5'-1.0': Unsampled Subbase
		6 6 4 11	10	13		**2' to 6':** POORLY GRADED GRAVEL WITH SAND (GP), gray, dry, loose to medium dense.	20	S-1	64	27	10	NP	NP	6	GW-GM	
1416.9	6.0	13 23 3 2	26	35			5	S-2	64	27	10	NP	NP	6	GW-GM	S-1 through S-2 laboratory classification = Well graded GRAVEL with silt and sand (GW-GM)
1414.9	8.0	5 2 4 2	6	8		**6' to 8':** POORLY GRADED SAND (SP), brown with black and red, moist, loose.	35	S-3								2.0'-8.5': Construction debris
1412.9	10.0	7 2 1 2	3	4		**8' to 10':** No recovery.	0	S-4								S-4: No recovery due to large loose gravel and sand
	▼	1 1 3 6	4	5		**10' to 30':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray, moist to wet, loose to very dense.	55	S-5								S-5: Environmental sample collected
		12 15 16 15	31	41			65	S-6	57	34	9	NP	NP	11	GP-GM	S-6: Soil fertility sample collected
		12 11 23 13	44	59			50	S-7	57	34	9	NP	NP	11	GP-GM	S-6 through S-8 laboratory classification = Poorly graded GRAVEL with silt and sand (GP-GM)
		13 25 22 29	47	63			60	S-8	57	34	9	NP	NP	11	GP-GM	
		40 50/4"	50	67			100	S-9								

0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0

ACE 1836-A (DRILLING LOG) 14003-0001.GPJ USACE WITH RAPID CPT (01-07-2011) SBS (04-13-2011).GDT 4/29/15

DRILLING LOG (Cont Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
PROJECT Livingston Manor Feasibility Study	COORDINATE SYSTEM State Plane	HORIZONTAL NAD83 · VERTICAL NAVD88
LOCATION COORDINATES N 1,117,552.0 E 402,671.0	ELEVATION TOP OF BORING 1422.9	

ELEV	DEPTH	Blows/ 0.5 ft	N_f	N_{60}	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	Laboratory Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS	
		23 41 50/2"	91	121	•	**10' to 30':** POORLY GRADED SAND WITH GRAVEL (SP), brown and gray, moist to wet, loose to very dense. *(continued)*	100	S-10									20.0
		22 31 25 20	56	75	•		85	S-11	43	43	14	NP	NP	12	SM	S-11 through S-13 laboratory classification = Silty SAND with gravel (SM)	22.5
		15 47 27 21	74	99	•		90	S-12	43	43	14	NP	NP	12	SM		25.0
		6 17 23 18	40	53	•		75	S-13	43	43	14	NP	NP	12	SM		27.5
1392.9	30.0	4 10 23 39	33	44	•		70	S-14	43	43	14	NP	NP	12	SM	No PID readings greater than 0.1 ppm	30.0

Bottom of hole at 30 feet.

APPENDIX B

GEOTECHNICAL LABORATORY TESTING RESULTS

GTS TECHNOLOGIES

441 Friendship Road
Harrisburg, PA 17111
Phone: (717) 920-7061
Fax: (717) 233-0994
www.gtstech.com

Engineers • Geologists • Environmental Consultants

PROJECT NAME: Livingston Manor

GTS PROJECT NO.: 14003-1

TESTING DATE: March 2015

LETTER OF LABORATORY TESTING CERTIFICATION

This letter is to certify that the following laboratory tests were performed in GTS Technologies, Inc. AMRL and USACE certified laboratory using the standards specified below.

(X) Soil Classification (ASTM D2487)
(X) Moisture Content (ASTM D2216)
(X) Grain Size Analysis with Hydrometer (ASTM D422)
(X) Grain Size Analysis without Hydrometer (ASTM D422)
(X) Atterberg Limits (Liquid Limit & Plastic Limit) (ASTM D4318)

The following tests were performed at Navarro & Wright Consulting Engineers, Inc. AMRL and USACE certified laboratory using the standards specified below.

(X) Specific Gravity (ASTM D854)

GEO-Technical Services, Inc.
d/b/a GTS Technologies, Inc.

VINAY B. SINGHAL
PE081484

Vinay B. Singhal, P.E.
Laboratory Manager

M:\14000\14003_USACE GeotechnicalGeo-Environmental IDC\T0001-Livingston\Geotechnical\Testing\Lab Testing Results\14003-1.GTS_LabCertificationLetter.doc

NAVARRO & WRIGHT
CONSULTING ENGINEERS, INC.

April 2, 2015

Letter of Laboratory Testing Certification

This letter certifies that the following laboratory tests were performed. All testing was performed in Navarro & Wright Consulting Engineers, Inc. U.S. Army Corps of Engineers validated laboratory using the following ASTM or AASHTO standards highlighted below. This certification applies to Livingston Manor, 14003-1.

- **Moisture Content**
ASTM D2216 and AASHTO T265

- **Particle Size Analysis**
ASTM D422 and AASHTO T88

- **Percent Fines**
ASTM D1140

- **Liquid Limit**
ASTM D4318 and AASHTO T89

- **Plastic Limit**
ASTM D4318 and AASHTO T90

- **Specific Gravity**
ASTM D854 and AASHTO T100

- **USCS Classification of Soils**
ASTM D2487

- **pH of Soil**
ASTM D4972 and AASHTO T289

- **Standard Proctor**
ASTM D698 and AASHTO T-99

- **California Bearing Ratio**
ASTM DI883 and AASHTO T193

- **Direct Shear**
ASTM D3080 and AASHTO T236

Paul J. Navarro

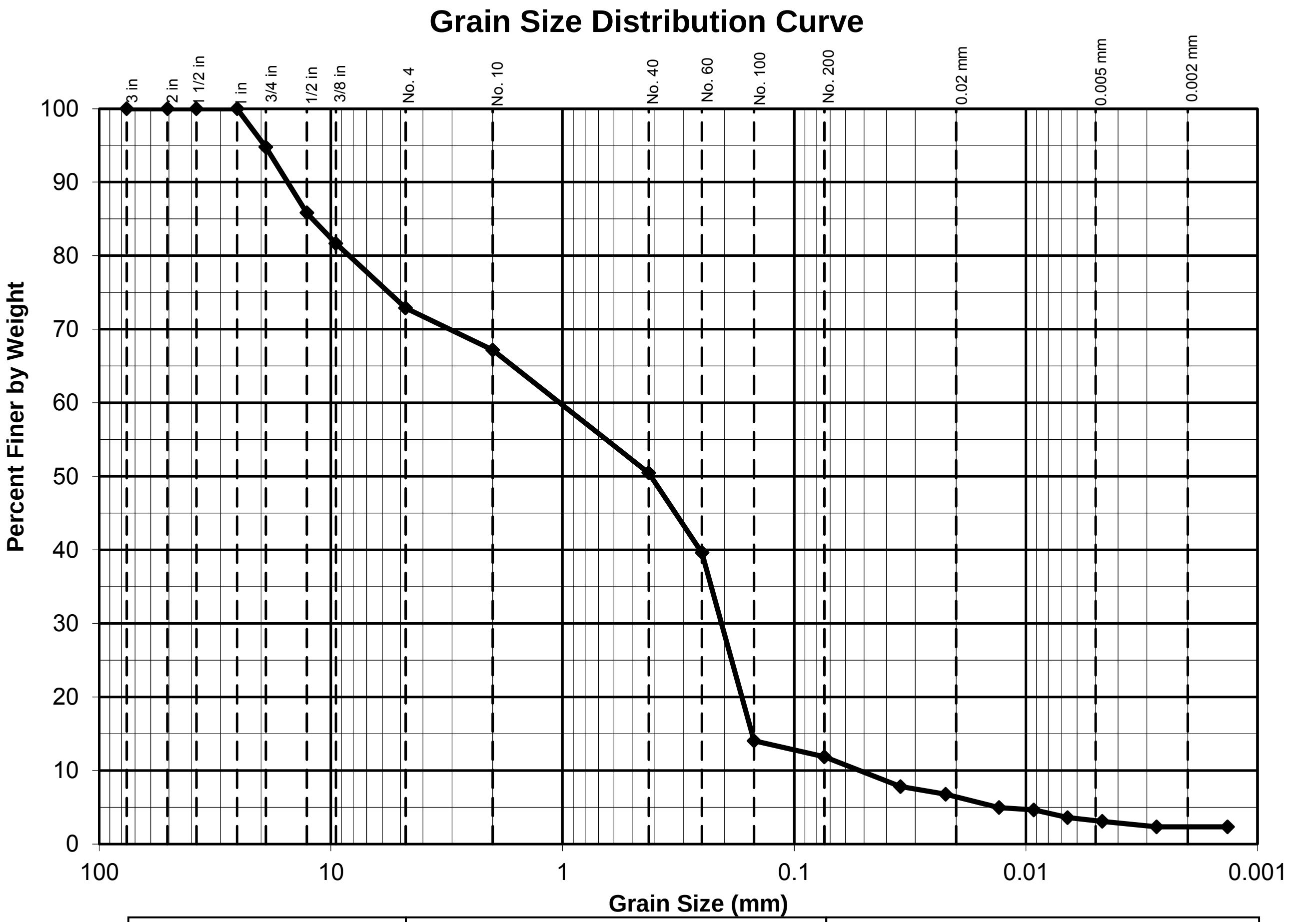
Paul J. Navarro, PE
President/CEO

Corporate Office
151 Reno Avenue
New Cumberland, PA 17070
Ph: 717-441-2216
Fax: 717-441-2218
www.navarrowright.com

Branch Offices
209 Main Street
Towanda, PA 18848
Ph: 570-265-3580
Fax: 570-265-3955

301 N. Charles Street
Suite 601
Baltimore, MD 21202
Ph: 443-524-2700
Fax: 443-524-2701

528 E. Chemung Street
Waverly, NY 14892
Ph: 607-565-7225



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
27.11 %		61.03 %			11.85 %	
5.24 %	21.87 %	5.72 %	16.72 %	38.59 %	8.71 %	3.14 %

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	poorly graded SAND with silt and gravel
Boring No.:	LMSB-02		
Station:		**USCS Symbol:**	SP-SM
Offset:		LL = NP	PL = NP
Sample No.:	S-2 to S-4	PI = NP	w = 5.3 %
Depth:	2.0 - 8.0 ft	**Specific Gravity:**	2.67

Note: Minimum mass requirement was not met. Mass used for the test = 809.56 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/26/2015

AASHTO R18

GTS No. 14003-1

By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer #	1	
Average Calibrated Mass of Dry Pync. (g)	92.90	
Average Calibrated Volume of Pync. (ml)	249.57	
Density of Water @ Test Temp (g/ml)	0.99804	(from p. 89 in ASTM D 854-02)
Test Temperature (degrees Celcius)	20.8	
Mass of Pync. & Water @ Test Temp (g)	341.98	

Specific Gravity Determination

Mass of Oven Dried Soils (g)	61.15	
Mass of Pync. & Water @ Test Temp (g)	341.98	
Mass of Pync. ,Water, & Soil Solids @ test temp (g)	380.27	
Temperature Coefficient (K)	0.99983	(from p. 89 in ASTM D 854-02)
Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)]	2.675	
Specific Gravity @ 20 degrees Celcius	2.674	

Project No. SL005-SL2
Project Livingston Manor
Boring No. LMSB-02
Sample No. S-2 to S-4
Depth 2.0'-8.0'
Station N/A
Offset N/A

Tested By BBB
Date 3/30/2015
Date Sample Received 3/27/2015
Checked By JDP

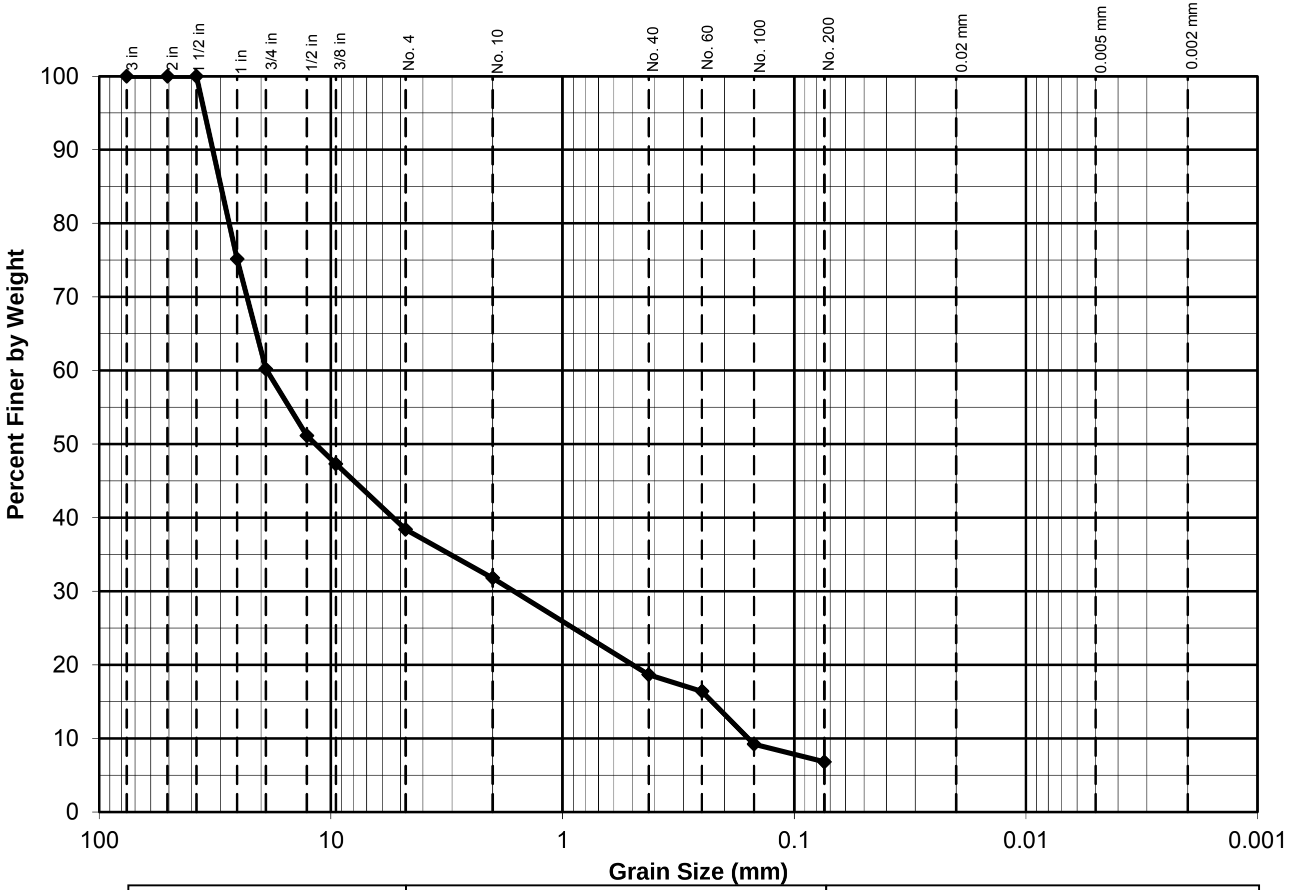
NAVARRO & WRIGHT
CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
61.61 %		31.59 %			6.80 %	
39.79 %	21.82 %	6.60 %	13.15 %	11.84 %	--	--

USCS

Project: Livingston Manor
Boring No.: LMSB-04
Station:
Offset:
Sample No.: S-2 to S-4
Depth: 2.0 - 8.0 ft

USCS Soil Classification: poorly graded GRAVEL with silt and sand
USCS Symbol: GP-GM
LL = NP PL = NP
PI = NP w = 3.5 %
Specific Gravity:

Note: Minimum mass requirement was not met. Mass used for the test = 901.81 grams

AMRL and USACE certified laboratory

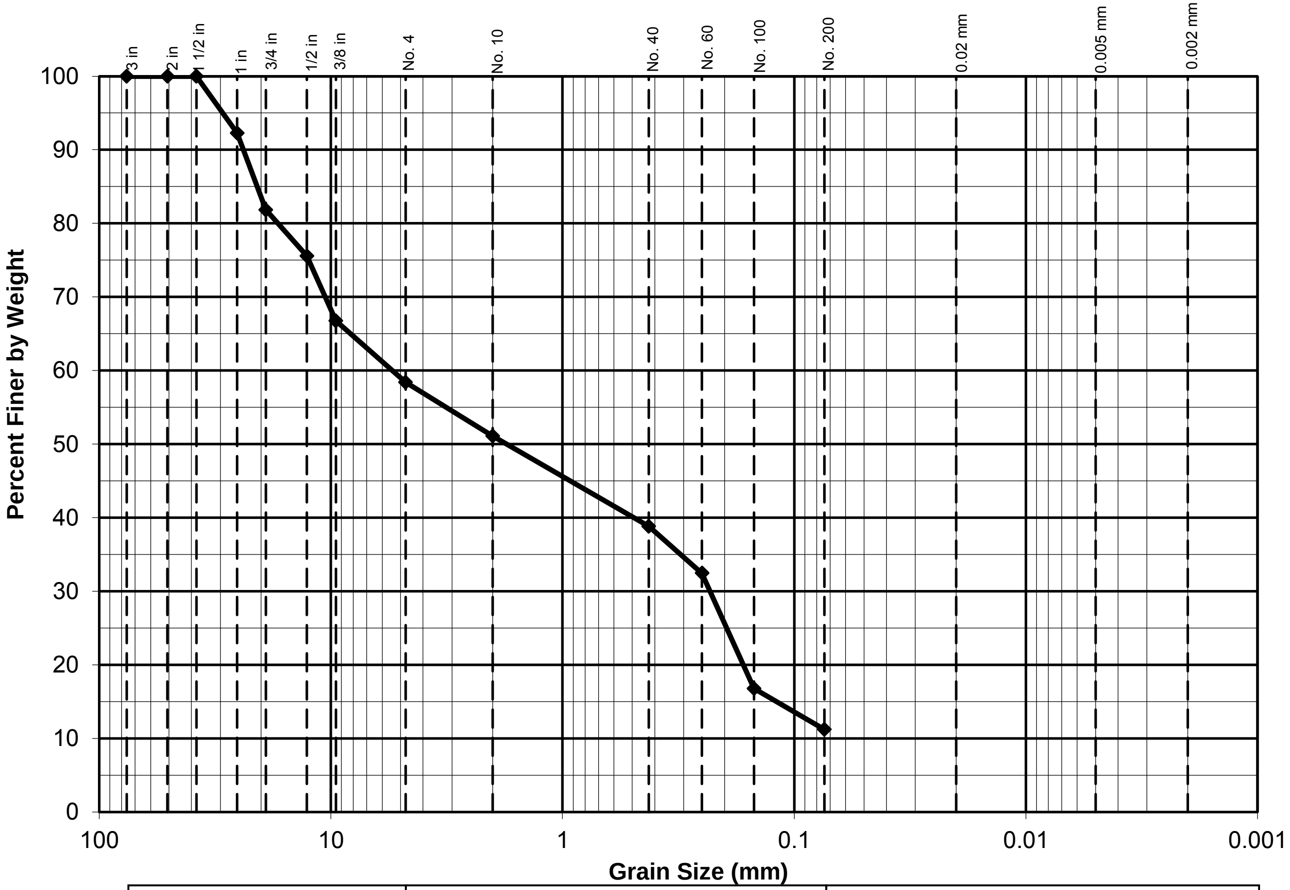
CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/24/2015

GTS No. 14003-1 By: DFS/KJE Ckd: SA

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
41.61 %		47.17 %			11.21 %	
18.18 %	23.44 %	7.31 %	12.27 %	27.59 %	--	--

USCS

Project: Livingston Manor
Boring No.: LMSB-06
Station:
Offset:
Sample No.: S-2 to S-4
Depth: 2.0 - 8.0 ft

USCS Soil Classification: poorly graded SAND with silt and gravel
USCS Symbol: SP-SM
LL = NP PL = NP
PI = NP w = 11.7 %
Specific Gravity:

Note: Minimum mass requirement was not met. Mass used for the test = 965.13 grams

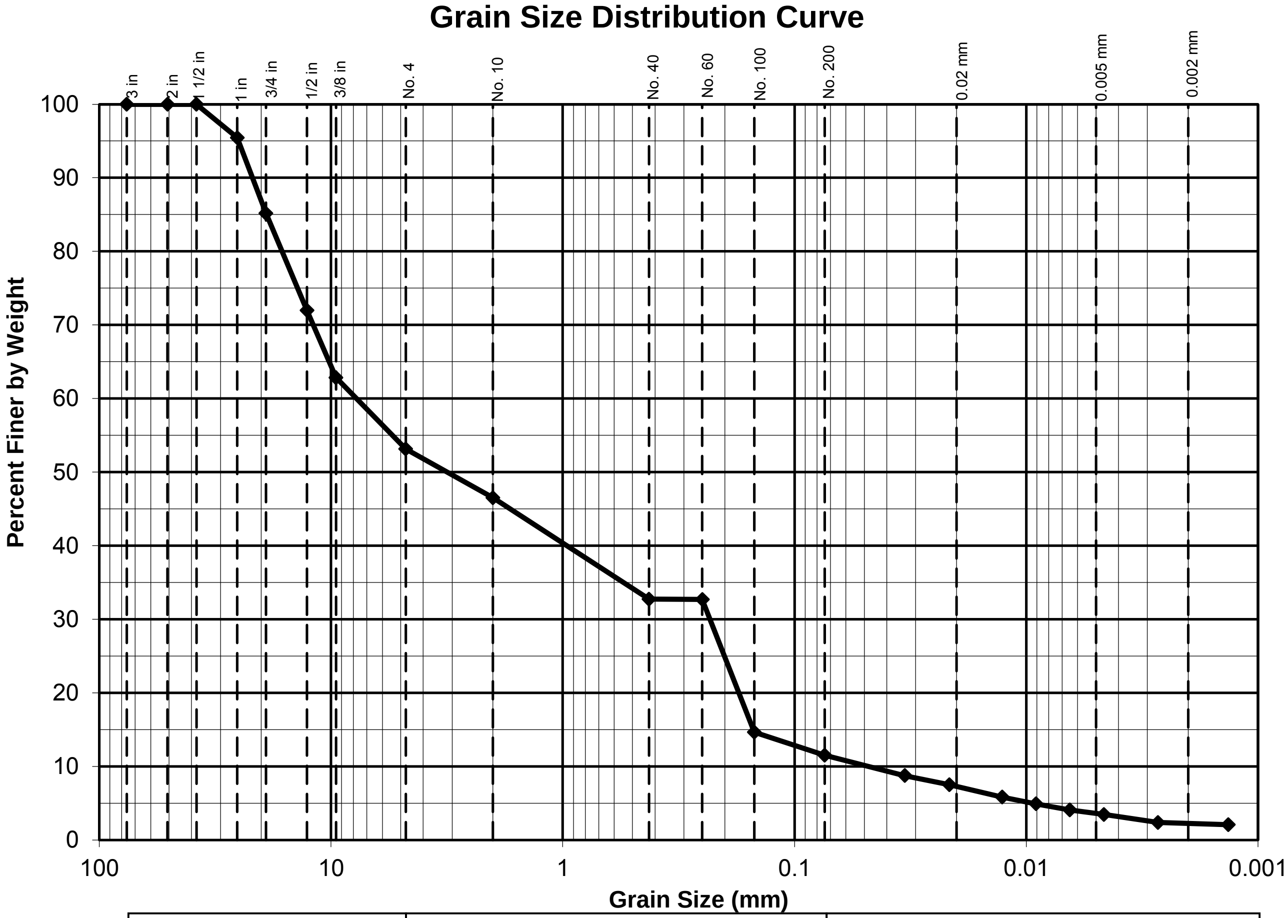
CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/24/2015

AMRL and USACE certified laboratory

GTS No. 14003-1 By: DFS/KJE Ckd: SA



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
46.86 %		41.66 %			11.49 %	
14.82 %	32.04 %	6.62 %	13.78 %	21.25 %	7.91 %	3.58 %

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	poorly graded GRAVEL with silt and sand
Boring No.:	LMSB-08		
Station:		**USCS Symbol:**	GP-GM
Offset:		LL = NP	PL = NP
Sample No.:	S-2 to S-4	PI = NP	w = 10.6 %
Depth:	2.0 - 8.0 ft	**Specific Gravity:**	2.68

Note: Minimum mass requirement was not met. Mass used for the test = 953.9 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/26/2015

AASHTO R18

GTS No. 14003-1

By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer # 3

Average Calibrated Mass of Dry Pync. (g) 92.44

Average Calibrated Volume of Pync. (ml) 249.63

Density of Water @ Test Temp (g/ml) 0.99799 (from p. 89 in ASTM D 854-02)

Test Temperature (degrees Celcius) 21.0

Mass of Pync. & Water @ Test Temp (g) 341.57

Specific Gravity Determination

Mass of Oven Dried Soils (g) 50.11

Mass of Pync. & Water @ Test Temp (g) 341.57

Mass of Pync. ,Water, & Soil Solids @ test temp (g) 373.01

Temperature Coefficient (K) 0.99979 (from p. 89 in ASTM D 854-02)

Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)] 2.684

Specific Gravity @ 20 degrees Celcius 2.684

Project No. SL005-SL2

Project Livingston Manor

Boring No. LMSB-08

Sample No. S-2 to S-4

Depth 2.0'-8.0'

Station N/A

Offset N/A

Tested By BBB

Date 3/30/2015

Date Sample Received 3/27/2015

Checked By JDP

NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

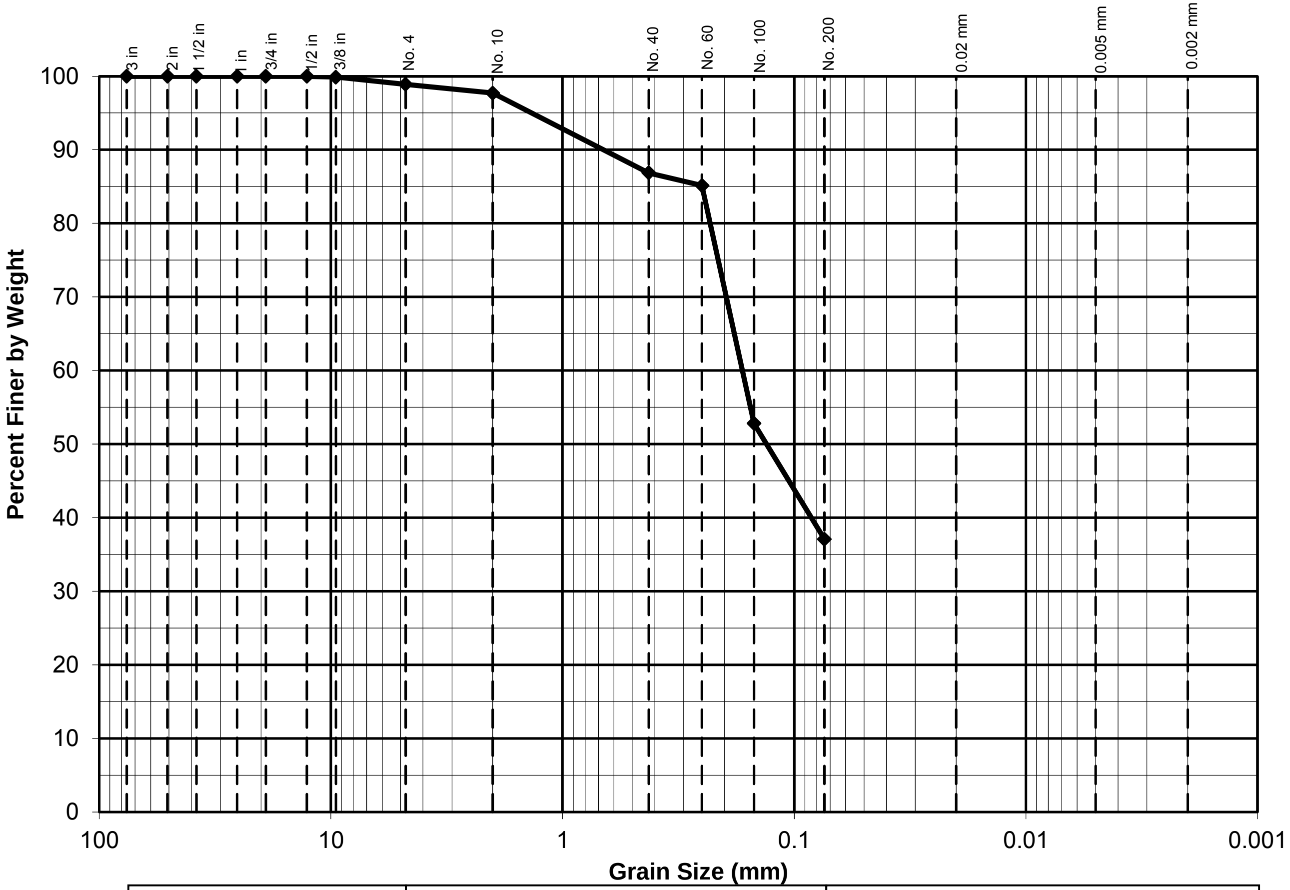
AAP® AASHTO R18

SPECIFIC GRAVITY

ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
1.10 %		61.84 %			37.06 %	
0.00 %	1.10 %	1.20 %	10.85 %	49.79 %	--	--

USCS

Project: Livingston Manor
Boring No.: LMSB-09
Station:
Offset:
Sample No.: Bag Sample
Depth: 0.0 - 4.0 ft

USCS Soil Classification: silty SAND
USCS Symbol: SM
LL = NP PL = NP
PI = NP w = 32.2 %
Specific Gravity:

GTS TECHNOLOGIES
AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

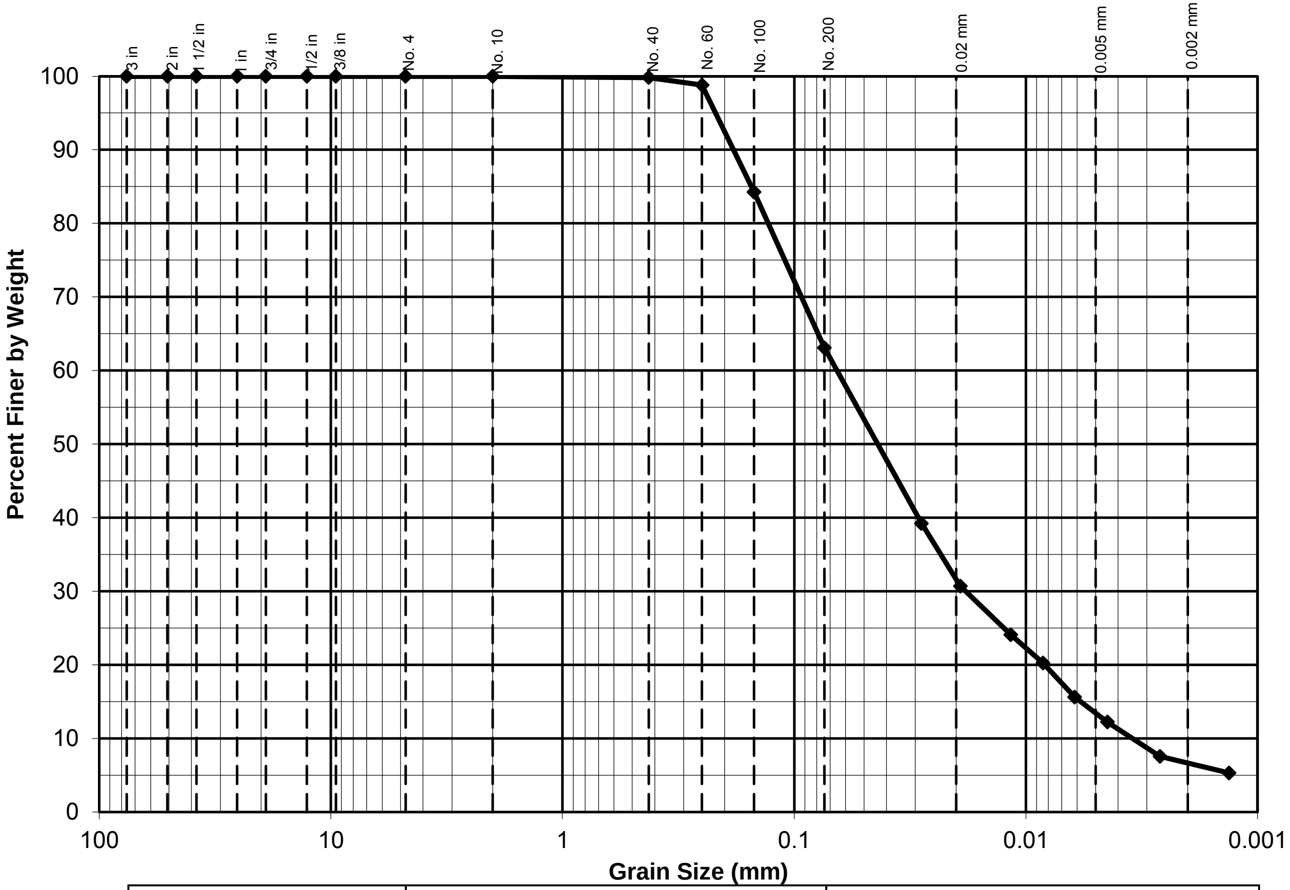
ASTM D422, D4318, D2216, D2487

Testing Date: 3/26/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.00 %		36.93 %			63.07 %	
0.00 %	0.00 %	0.00 %	0.18 %	36.74 %	49.76 %	13.31 %

USCS

Project: Livingston Manor
Boring No.: LMSB-10
Station:
Offset:
Sample No.: Bag Sample
Depth: 0.0 - 4.0 ft

USCS Soil Classification: sandy SILT
USCS Symbol: ML
LL = NP PL = NP
PI = NP w = 39.6 %
Specific Gravity: 2.69

GTS TECHNOLOGIES
AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer #	1
Average Calibrated Mass of Dry Pync. (g)	92.90
Average Calibrated Volume of Pync. (ml)	249.57
Density of Water @ Test Temp (g/ml)	0.99784 (from p. 89 in ASTM D 854-02)
Test Temperature (degrees Celcius)	21.7
Mass of Pync. & Water @ Test Temp (g)	341.93

Specific Gravity Determination

Mass of Oven Dried Soils (g)	51.21
Mass of Pync. & Water @ Test Temp (g)	341.93
Mass of Pync. ,Water, & Soil Solids @ test temp (g)	374.10
Temperature Coefficient (K)	0.99963 (from p. 89 in ASTM D 854-02)
Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)]	2.689
Specific Gravity @ 20 degrees Celcius	2.688

Project No. SL005-SL2

Project Livingston Manor

Boring No. LMSB-10

Sample No. BAG

Depth 0.0'-4.0'

Station N/A

Offset N/A

Tested By BBB

Date 3/30/2015

Date Sample Received 3/27/2015

Checked By JDP

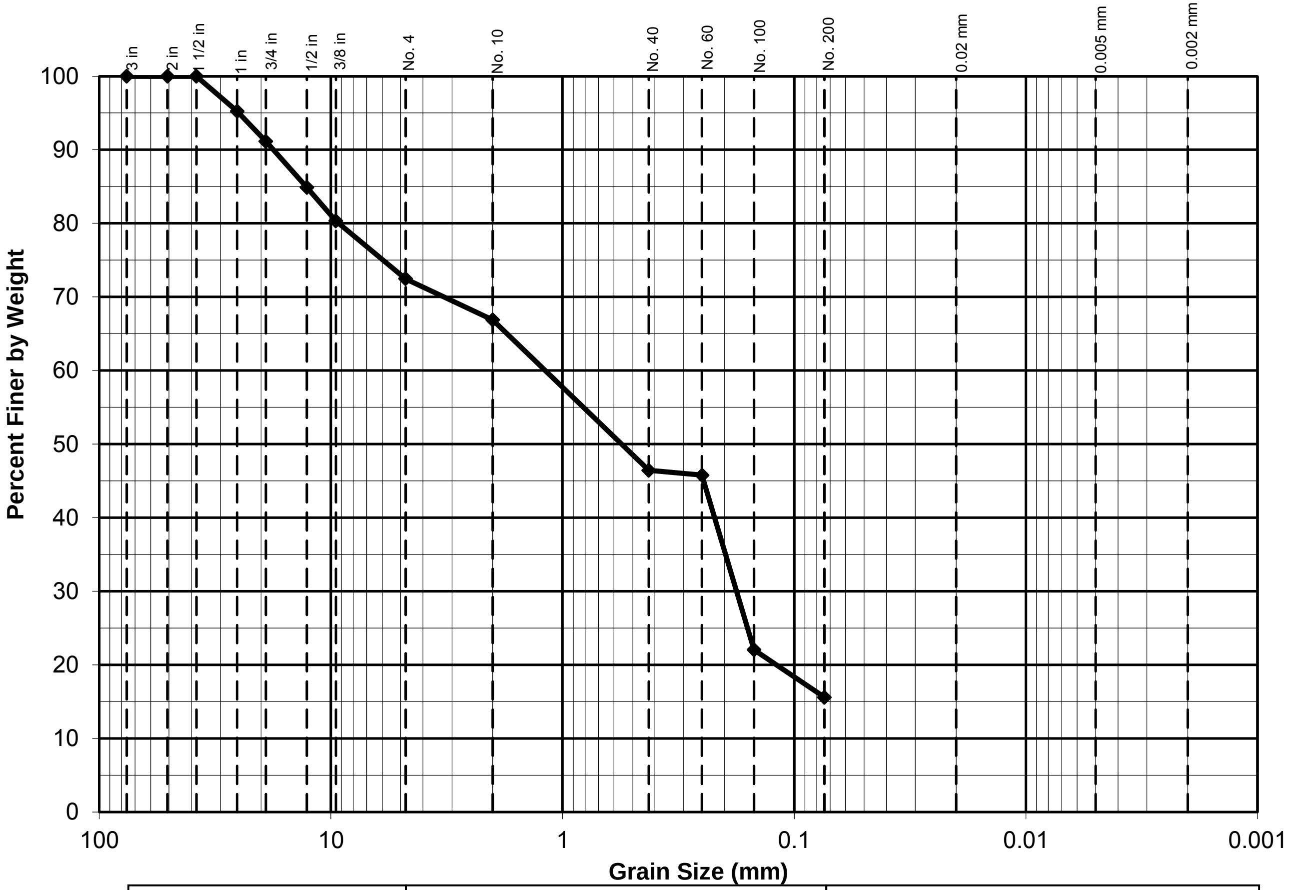
NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
27.54 %		56.89 %			15.57 %	
8.87 %	18.67 %	5.57 %	20.46 %	30.86 %	--	--

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	silty SAND with gravel
Boring No.:	LMSB-11		
Station:		**USCS Symbol:**	SM
Offset:		LL = NP	PL = NP
Sample No.:	Bag Sample	PI = NP	w = 17.4 %
Depth:	0.0 - 4.0 ft	**Specific Gravity:**	

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

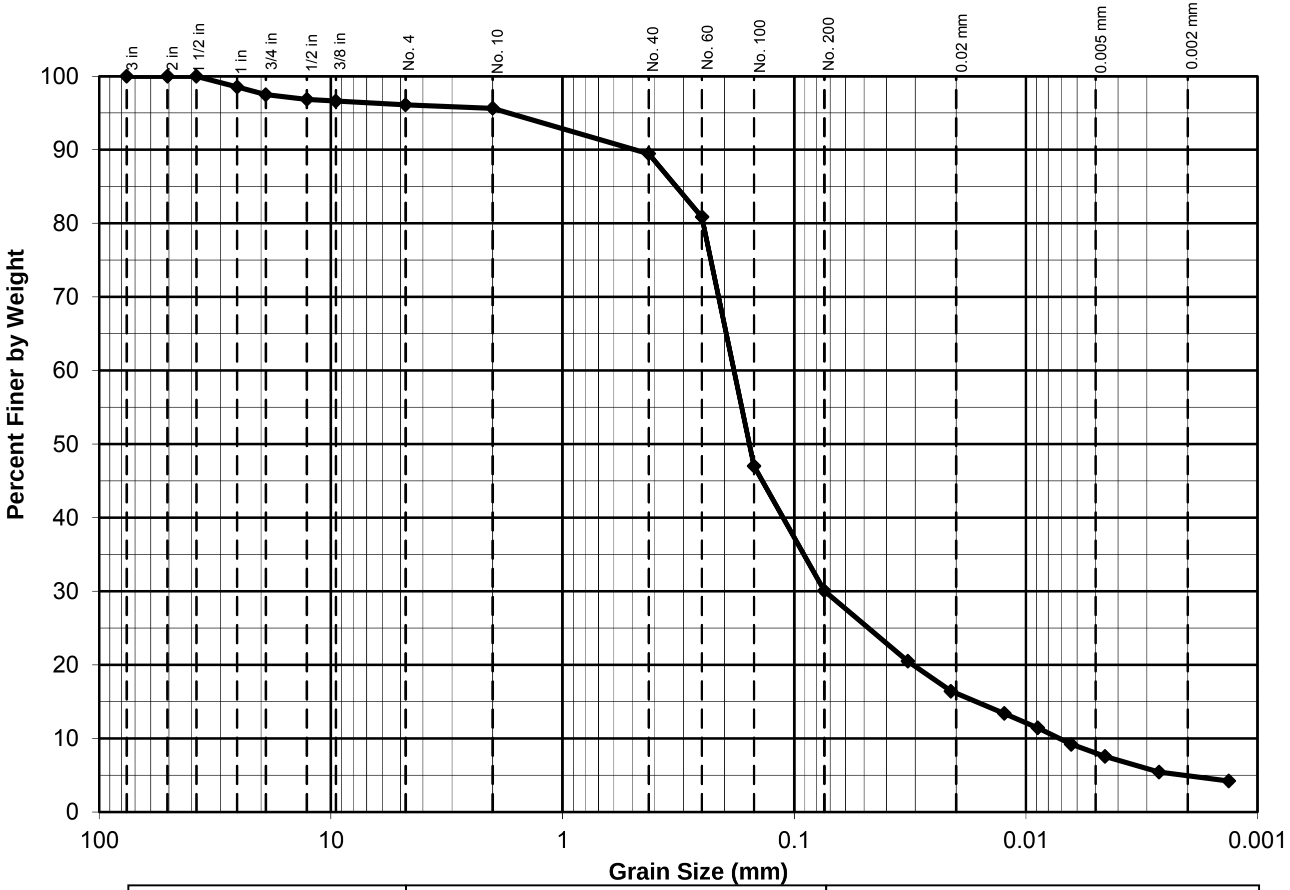
Testing Date: 3/26/2015

AASHTO R18

GTS No. 14003-1

By: DFS/KJE Ckd: SA

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
3.89 %		66.08 %			30.04 %	
2.51 %	1.37 %	0.48 %	6.17 %	59.42 %	22.10 %	7.94 %

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	silty SAND
Boring No.:	LMSB-12		
Station:		**USCS Symbol:**	SM
Offset:		LL = NP	PL = NP
Sample No.:	Bag Sample	PI = NP	w = 19.2 %
Depth:	0.0 - 4.0 ft	**Specific Gravity:**	2.68

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

GTS No. 14003-1

By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer # 3

Average Calibrated Mass of Dry Pync. (g) 92.44

Average Calibrated Volume of Pync. (ml) 249.63

Density of Water @ Test Temp (g/ml) 0.99784 (from p. 89 in ASTM D 854-02)

Test Temperature (degrees Celcius) 21.7

Mass of Pync. & Water @ Test Temp (g) 341.53

Specific Gravity Determination

Mass of Oven Dried Soils (g) 51.91

Mass of Pync. & Water @ Test Temp (g) 341.53

Mass of Pync. ,Water, & Soil Solids @ test temp (g) 374.07

Temperature Coefficient (K) 0.99963 (from p. 89 in ASTM D 854-02)

Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)] 2.680

Specific Gravity @ 20 degrees Celcius 2.679

Project No. SL005-SL2

Project Livingston Manor

Boring No. LMSB-12

Sample No. BAG

Depth 0.0'-4.0'

Station N/A

Offset N/A

Tested By BBB

Date 3/30/2015

Date Sample Received 3/27/2015

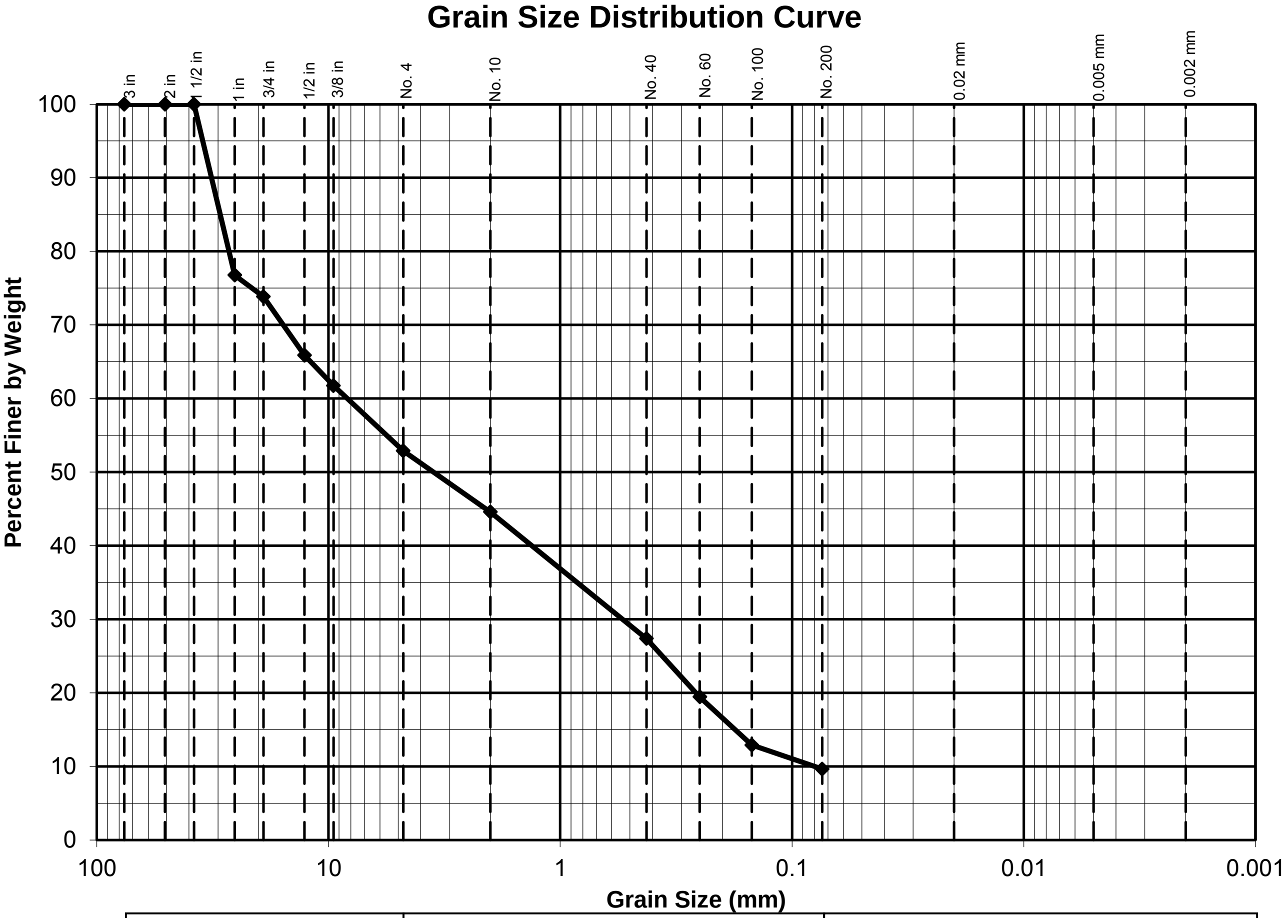
Checked By JDP

NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
47.11 %		43.27 %			9.62 %	
26.15 %	20.96 %	8.31 %	17.23 %	17.73 %	--	--

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	poorly graded GRAVEL with silt and sand
Boring No.:	LMSB-13		
Station:		**USCS Symbol:**	GP-GM
Offset:		LL = NP	PL = NP
Sample No.:	S-1 to S-2	PI = NP	w = 6.1 %
Depth:	2.0 - 5.1 ft	**Specific Gravity:**	

Note: Minimum mass requirement was not met. Mass used for the test = 498.79 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

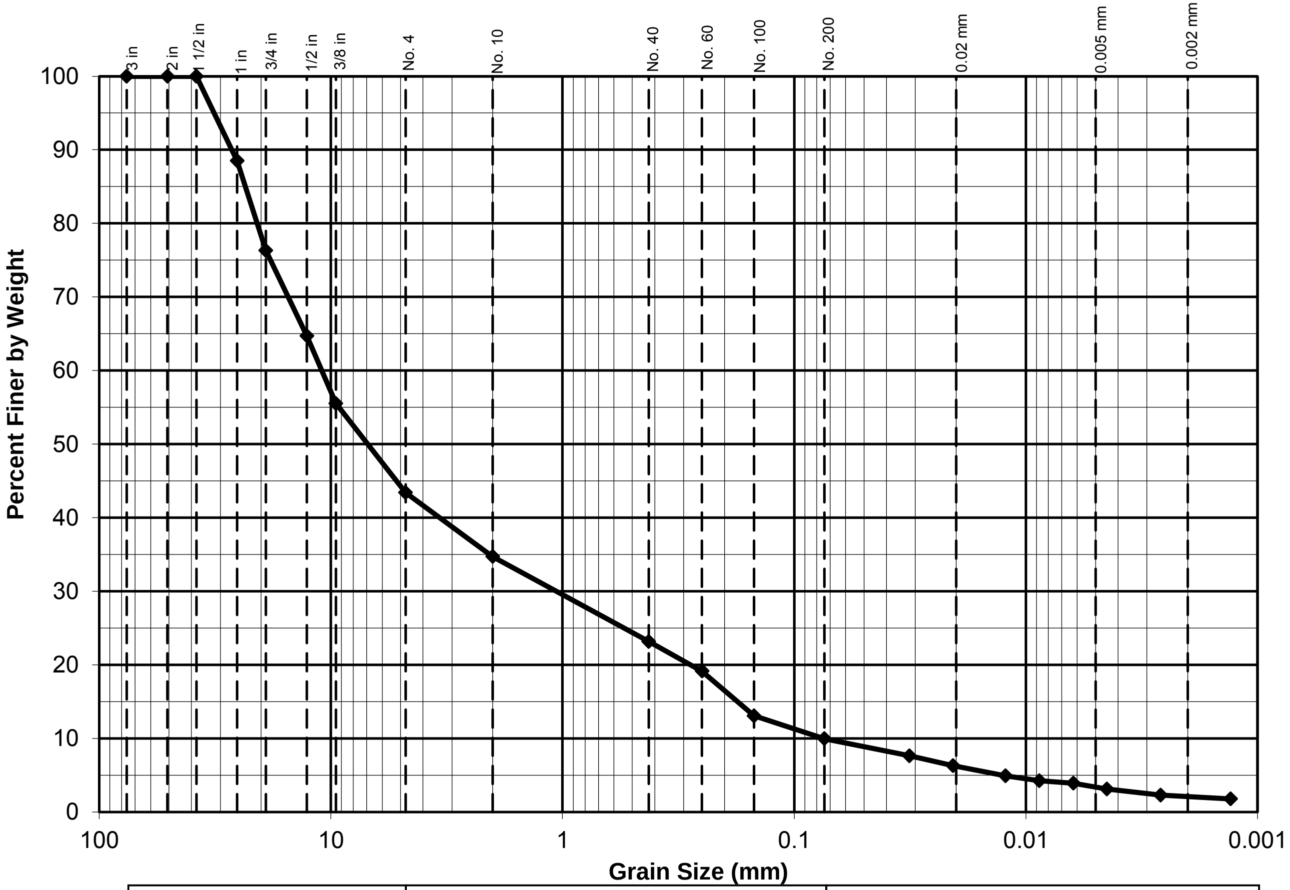
ASTM D422, D4318, D2216, D2487

Testing Date: 3/26/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
56.59 %		33.45 %			9.96 %	
23.69 %	32.90 %	8.71 %	11.54 %	13.21 %	6.61 %	3.35 %

USCS

Project: Livingston Manor
Boring No.: LMSB-13
Station:
Offset:
Sample No.: S-6 to S-8
Depth: 12.0 - 18.0 ft

USCS Soil Classification: well-graded GRAVEL with silt and sand
USCS Symbol: GW-GM
LL = NP PL = NP
PI = NP w = 11.4 %
Specific Gravity: 2.71

Note: Minimum mass requirement was not met. Mass used for the test = 870.46 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer # 1

Average Calibrated Mass of Dry Pync. (g) 92.90

Average Calibrated Volume of Pync. (ml) 249.57

Density of Water @ Test Temp (g/ml) 0.99793 (from p. 89 in ASTM D 854-02)

Test Temperature (degrees Celcius) 21.3

Mass of Pync. & Water @ Test Temp (g) 341.95

Specific Gravity Determination

Mass of Oven Dried Soils (g) 51.94

Mass of Pync. & Water @ Test Temp (g) 341.95

Mass of Pync. ,Water, & Soil Solids @ test temp (g) 374.76

Temperature Coefficient (K) 0.99972 (from p. 89 in ASTM D 854-02)

Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)] 2.715

Specific Gravity @ 20 degrees Celcius 2.714

Project No. SL005-SL2

Project Livingston Manor

Boring No. LMSB-13

Sample No. S-6 to S-8

Depth 12.0'-18.0'

Station N/A

Offset N/A

Tested By BBB

Date 3/31/2015

Date Sample Received 3/27/2015

Checked By JDP

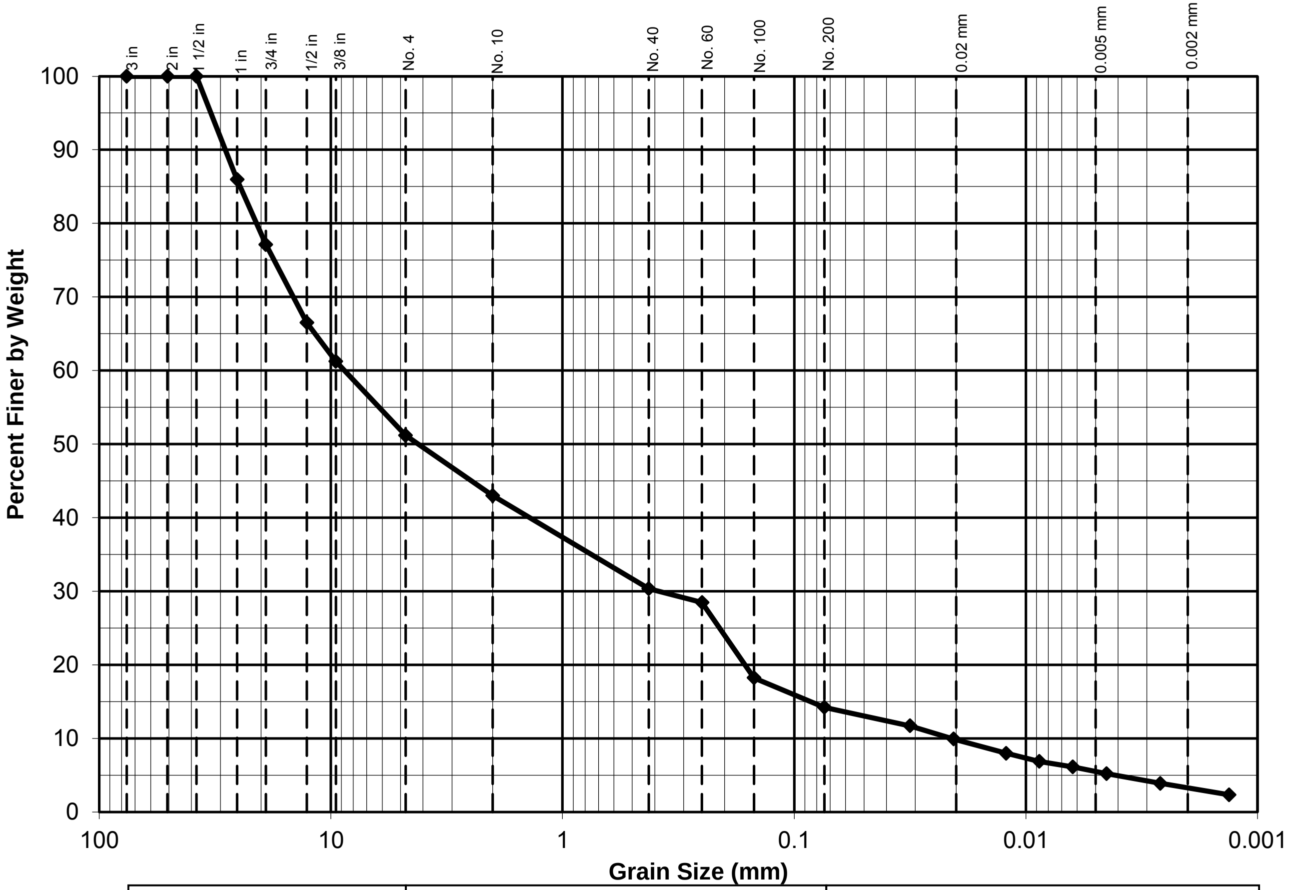
NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
48.82 %		36.96 %			14.22 %	
22.87 %	25.95 %	8.18 %	12.66 %	16.12 %	8.75 %	5.48 %

USCS

Project: Livingston Manor
Boring No.: LMSB-13
Station:
Offset:
Sample No.: S-11 to S-13
Depth: 22.0 - 28.0 ft

USCS Soil Classification: silty GRAVEL with sand
USCS Symbol: GM
LL = 18 % PL = 15 %
PI = 3 % w = 10.3 %
Specific Gravity: 2.69

Note: Minimum mass requirement was not met. Mass used for the test = 810.26 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer #	3	
Average Calibrated Mass of Dry Pync. (g)	92.44	
Average Calibrated Volume of Pync. (ml)	249.63	
Density of Water @ Test Temp (g/ml)	0.99808	(from p. 89 in ASTM D 854-02)
Test Temperature (degrees Celcius)	20.6	
Mass of Pync. & Water @ Test Temp (g)	341.59	

Specific Gravity Determination

Mass of Oven Dried Soils (g)	52.47	
Mass of Pync. & Water @ Test Temp (g)	341.59	
Mass of Pync. ,Water, & Soil Solids @ test temp (g)	374.54	
Temperature Coefficient (K)	0.99987	(from p. 89 in ASTM D 854-02)
Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)]	2.688	
Specific Gravity @ 20 degrees Celcius	2.688	

Project No. SL005-SL2
Project Livingston Manor
Boring No. LMSB-13
Sample No. S-11 to S-13
Depth 22.0'-28.0'
Station N/A
Offset N/A

Tested By BBB
Date 3/31/2015
Date Sample Received 3/27/2015
Checked By JDP

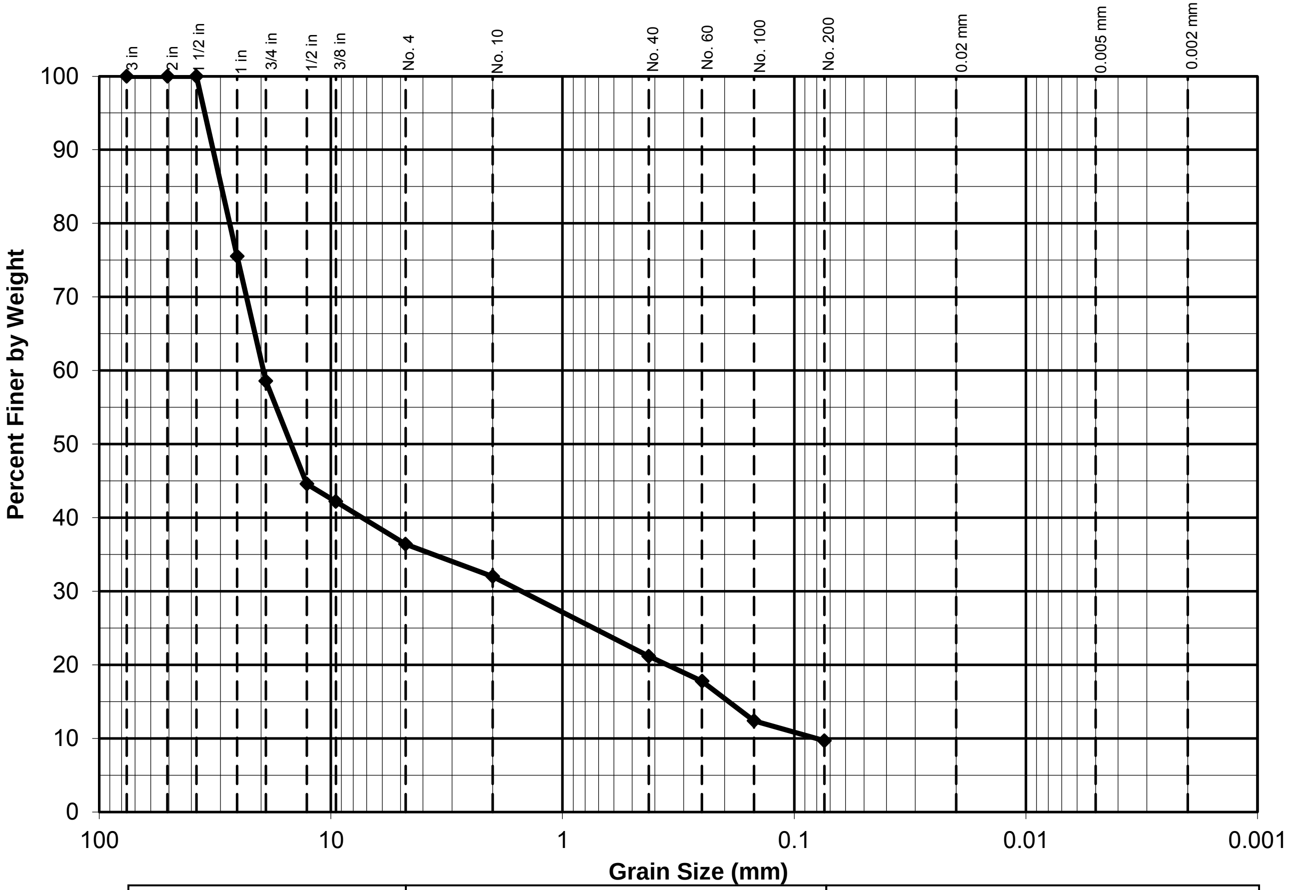
NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
63.62 %		26.70 %			9.68 %	
41.42 %	22.21 %	4.37 %	10.84 %	11.49 %	--	--

USCS

Project: Livingston Manor
Boring No.: LMSB-14
Station:
Offset:
Sample No.: S-1 to S-2
Depth: 2.0 - 6.0 ft

USCS Soil Classification: well-graded GRAVEL with silt and sand
USCS Symbol: GW-GM
LL = NP PL = NP
PI = NP w = 6.0 %
Specific Gravity:

Note: Minimum mass requirement was not met. Mass used for the test = 278.57 grams

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

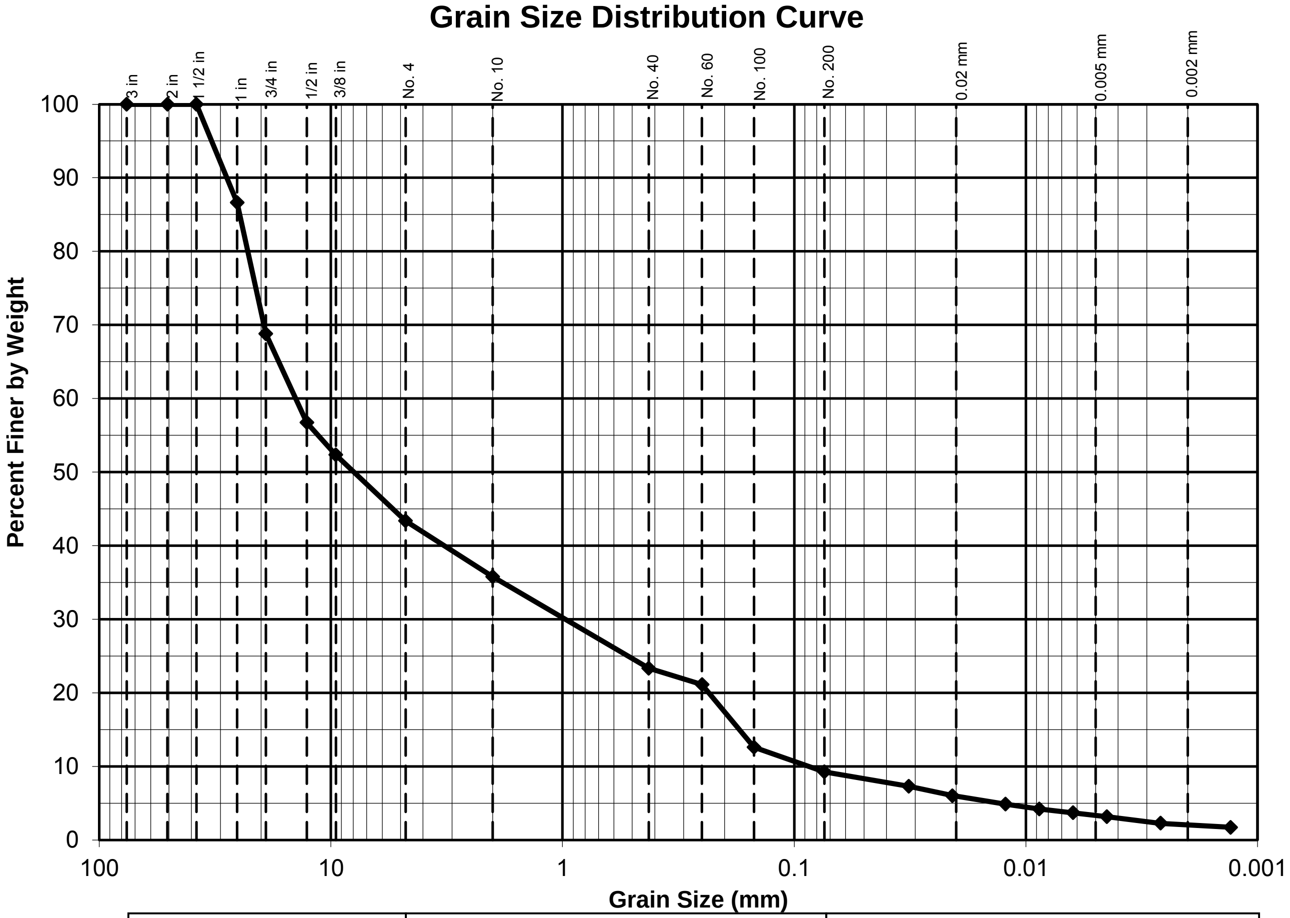
ASTM D422, D4318, D2216, D2487

Testing Date: 3/24/2015

AASHTO R18

GTS No. 14003-1

By: DFS/KJE Ckd: SA



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
56.64 %		34.09 %			9.26 %	
31.21 %	25.43 %	7.57 %	12.44 %	14.08 %	5.96 %	3.31 %

USCS

Project:	Livingston Manor	**USCS Soil Classification:**	poorly graded GRAVEL with silt and sand
Boring No.:	LMSB-14		
Station:		**USCS Symbol:**	GP-GM
Offset:		LL = NP	PL = NP
Sample No.:	S-6 to S-8	PI = NP	w = 11.1 %
Depth:	12.0 - 18.0 ft	**Specific Gravity:**	2.72

Note: Minimum mass requirement was not met. Mass used for the test = 829.33 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

AASHTO R18

GTS No. 14003-1 By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer # 1

Average Calibrated Mass of Dry Pync. (g) 92.90

Average Calibrated Volume of Pync. (ml) 249.57

Density of Water @ Test Temp (g/ml) 0.9977 (from p. 89 in ASTM D 854-02)

Test Temperature (degrees Celcius) 22.3

Mass of Pync. & Water @ Test Temp (g) 341.90

Specific Gravity Determination

Mass of Oven Dried Soils (g) 54.16

Mass of Pync. & Water @ Test Temp (g) 341.90

Mass of Pync. ,Water, & Soil Solids @ test temp (g) 376.18

Temperature Coefficient (K) 0.9995 (from p. 89 in ASTM D 854-02)

Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)] 2.725

Specific Gravity @ 20 degrees Celcius 2.724

Project No. SL005-SL2

Project Livingston Manor

Boring No. LMSB-14

Sample No. S-6 to S-8

Depth 12.0'-18.0'

Station N/A

Offset N/A

Tested By BBB

Date 3/31/2015

Date Sample Received 3/27/2015

Checked By JDP

NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

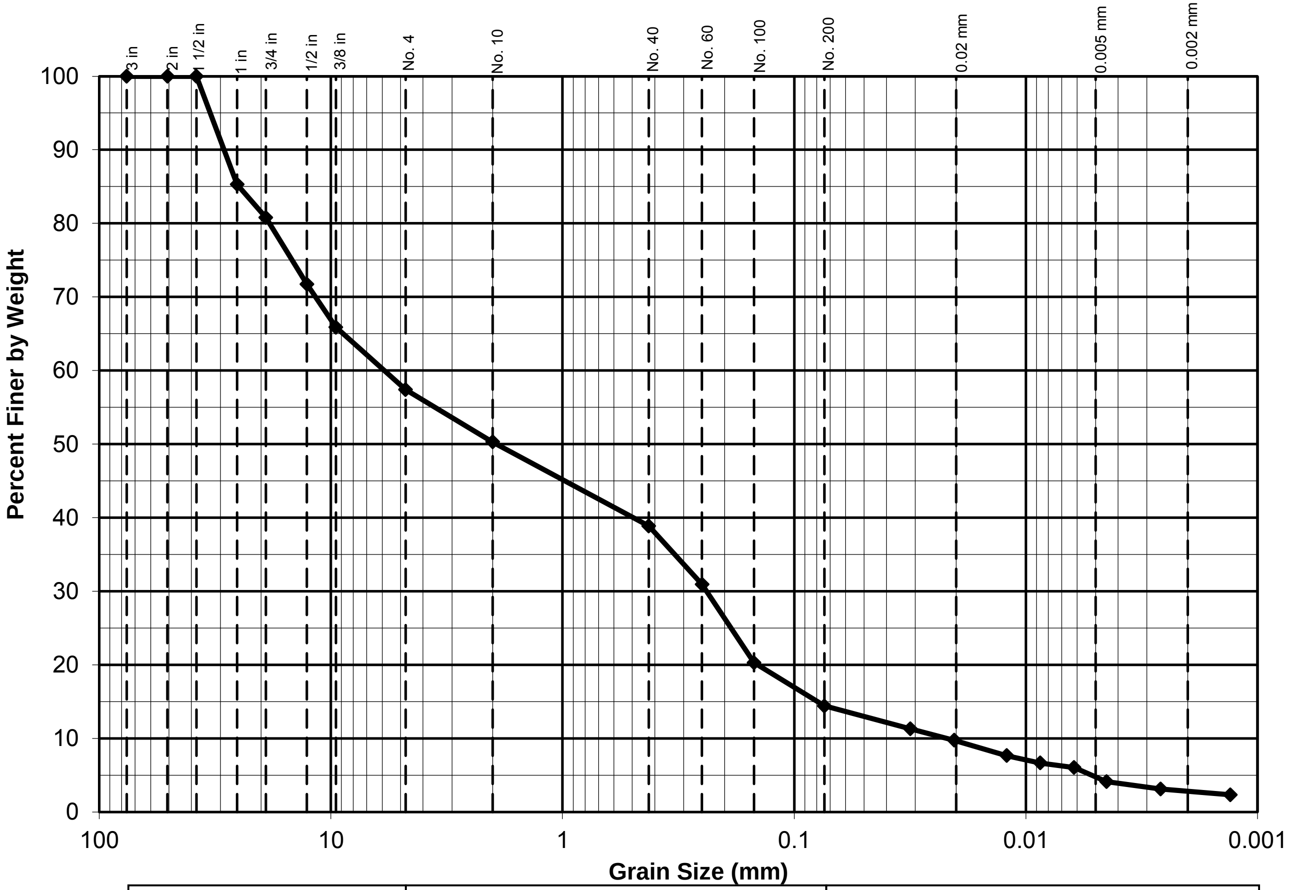
AAP AASHTO R18

SPECIFIC GRAVITY

ASTM D854

By: BBB Ckd: JDP

Grain Size Distribution Curve



GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
42.61 %		42.99 %			14.40 %	
19.21 %	23.40 %	7.11 %	11.41 %	24.47 %	9.72 %	4.68 %

USCS

Project: Livingston Manor
Boring No.: LMSB-14
Station:
Offset:
Sample No.: S-11 to S-14
Depth: 22.0 - 30.0 ft

USCS Soil Classification: silty SAND with gravel
USCS Symbol: SM
LL = NP
PL = NP
PI = NP
w = 12.0 %
Specific Gravity: 2.70

Note: Minimum mass requirement was not met. Mass used for the test = 1175.28 grams

GTS TECHNOLOGIES

AMRL and USACE certified laboratory

CLASSIFICATION TEST RESULTS

ASTM D422, D4318, D2216, D2487

Testing Date: 3/27/2015

AASHTO R18

GTS No. 14003-1

By: DFS/KJE Ckd: SA

SPECIFIC GRAVITY (ASTM D854)

ASTM Pyncnometer Calibrations

	Mass of Pync. (g)	Pync. & water (g)	Temp. ©	Vp (ml)
#1 Pyrex 250 ml Volumetric Flask	92.90	341.98	21.5	249.61
	92.90	341.95	20.6	249.53
	92.90	341.93	20.7	249.51
	92.90	342.01	21.0	249.61
	92.90	341.97	21.1	249.58
			avg.	249.57
#3 Pyrex 250 ml Volumetric Flask	92.44	341.53	21.5	249.62
	92.44	341.65	18.5	249.58
	92.44	341.68	18.8	249.63
	92.44	341.70	19.4	249.68
	92.44	341.65	19.8	249.65
			avg.	249.63

	Pync. #1	Pync. #3
Average Mass (g)	92.90	92.44
Standard Deviation (g)	0.00	0.00

	Pync. #1	Pync. #3
Average Vp (ml)	249.57	249.63
Standard Deviation (ml)	0.04	0.03

Pyncnometer # 3

Average Calibrated Mass of Dry Pync. (g)	92.44	
Average Calibrated Volume of Pync. (ml)	249.63	
Density of Water @ Test Temp (g/ml)	0.9977	(from p. 89 in ASTM D 854-02)
Test Temperature (degrees Celcius)	22.3	
Mass of Pync. & Water @ Test Temp (g)	341.50	

Specific Gravity Determination

Mass of Oven Dried Soils (g)	65.84	
Mass of Pync. & Water @ Test Temp (g)	341.50	
Mass of Pync. ,Water, & Soil Solids @ test temp (g)	382.96	
Temperature Coefficient (K)	0.9995	(from p. 89 in ASTM D 854-02)
Specific Gravity @ Tx: Ms/ [Mpw,s-(Mpws,t-Ms)]	2.701	
Specific Gravity @ 20 degrees Celcius	2.700	

Project No. SL005-SL2
Project Livingston Manor
Boring No. LMSB-14
Sample No. S-11 to S-14
Depth 22.0'-30.0'
Station N/A
Offset N/A

Tested By BBB
Date 3/31/2015
Date Sample Received 3/27/2015
Checked By JDP

NAVARRO & WRIGHT CONSULTING ENGINEERS, INC.

AASHTO R18

SPECIFIC GRAVITY
ASTM D854

By: BBB Ckd: JDP

APPENDIX C

ENVIRONMENTAL LABORATORY TESTING RESULTS

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

April 24, 2015

Ms. Meredith Glazier
GTS Technologies Inc.
441 Friendship Road
Harrisburg, PA 17111

Certificate of Analysis

Project Name:	**2014-DOD LIVINGSTON MANOR-NY**	Workorder:	**2060356**
Purchase Order:	**14003**	Workorder ID:	**GLM001|2015-LIVINGSTON MNR-NY**

Dear Ms. Glazier:

Enclosed are the analytical results for samples received by the laboratory on Thursday, March 19, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

SAMPLE SUMMARY

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2060356001	LMSB-1	Solid	3/17/2015 13:00	3/19/2015 16:52	Collected by Client
2060356002	LMSB-2	Solid	3/17/2015 13:55	3/19/2015 16:52	Collected by Client
2060356003	LMSB-3	Solid	3/17/2015 14:05	3/19/2015 16:52	Collected by Client
2060356004	LMSB-4	Solid	3/17/2015 14:25	3/19/2015 16:52	Collected by Client
2060356005	LMSB-5	Solid	3/18/2015 08:10	3/19/2015 16:52	Collected by Client
2060356006	LMSB-6	Solid	3/18/2015 08:45	3/19/2015 16:52	Collected by Client
2060356007	LMSB-7	Solid	3/18/2015 09:15	3/19/2015 16:52	Collected by Client
2060356008	LMSB-8	Solid	3/18/2015 09:50	3/19/2015 16:52	Collected by Client
2060356009	LMSB-9	Solid	3/18/2015 14:08	3/19/2015 16:52	Collected by Client
2060356010	LMSB-10	Solid	3/18/2015 14:30	3/19/2015 16:52	Collected by Client
2060356011	LMSB-11	Solid	3/18/2015 15:00	3/19/2015 16:52	Collected by Client
2060356012	LMSB-12	Solid	3/18/2015 15:30	3/19/2015 16:52	Collected by Client
2060356013	LMSB-13	Solid	3/18/2015 13:41	3/19/2015 16:52	Collected by Client
2060356014	LMSB-14	Solid	3/17/2015 09:15	3/19/2015 16:52	Collected by Client

SAMPLE SUMMARY

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Notes

- -- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- -- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- -- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- -- The Chain of Custody document is included as part of this report.
- -- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- -- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- -- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)

PROJECT SUMMARY

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Workorder Comments

See attached subcontracted metals analyses from Cornell University. VLF 4/20/15

Sample Comments

Lab ID: 2060356002 **Sample ID:** LMSB-2 **Sample Type:** SAMPLE

One or more of the method 8260 internal standards were recovered outside of the control limits.

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356001**	Date Collected:	3/17/2015 13:00	Matrix:	Solid
Sample ID:	**LMSB-1**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	4.6U	U	ug/kg	9.2	4.6	2.9	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Benzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Bromochloromethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Bromodichloromethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Bromoform	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Bromomethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
2-Butanone	4.6U	U	ug/kg	9.2	4.6	2.3	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Carbon Disulfide	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Carbon Tetrachloride	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Chlorobenzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Chlorodibromomethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Chloroethane	2.3U	U	ug/kg	4.6	2.3	1.0	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Chloroform	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Chloromethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Cyclohexane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2-Dibromo-3-chloropropane	2.3U	U	ug/kg	4.6	2.3	1.4	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2-Dibromoethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2-Dichlorobenzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,3-Dichlorobenzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,4-Dichlorobenzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Dichlorodifluoromethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,1-Dichloroethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2-Dichloroethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,1-Dichloroethene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
cis-1,2-Dichloroethene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
trans-1,2-Dichloroethene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2-Dichloropropane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
cis-1,3-Dichloropropene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
trans-1,3-Dichloropropene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,4-Dioxane	22.9U	U	ug/kg	68.8	22.9	13.6	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Ethylbenzene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Freon 113	0.92U	U45	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
2-Hexanone	4.6U	U	ug/kg	9.2	4.6	2.3	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Isopropylbenzene	0.92U	U6	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Methyl acetate	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Methyl cyclohexane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356001** Date Collected: 3/17/2015 13:00 Matrix: Solid

Sample ID: **LMSB-1** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
4-Methyl-2-Pentanone(MIBK)	4.6U	U	ug/kg	9.2	4.6	2.3	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Methylene Chloride	10.4	123	ug/kg	1.8	0.92	0.55	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Styrene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,1,2,2-Tetrachloroethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Tetrachloroethene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Toluene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2,3-Trichlorobenzene	0.74J	J	ug/kg	4.6	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,2,4-Trichlorobenzene	0.75J	J	ug/kg	4.6	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,1,1-Trichloroethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
1,1,2-Trichloroethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Trichloroethene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Trichlorofluoromethane	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Vinyl Chloride	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
o-Xylene	0.92U	U	ug/kg	1.8	0.92	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
mp-Xylene	1.8U	U	ug/kg	3.7	1.8	0.46	SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	91.5		%	56 - 124			SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
4-Bromofluorobenzene (S)	102		%	85 - 120			SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Dibromofluoromethane (S)	93.9		%	62 - 123			SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
Toluene-d8 (S)	101		%	85 - 115			SW846 8260B	3/20/15	JPA	3/30/15 06:57	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 06:57	CPK	C
SEMIVOLATILES												
Acenaphthene	69.1U	U	ug/kg	103	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Acenaphthylene	69.1U	U	ug/kg	103	69.1	11.3	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Anthracene	69.1U	U	ug/kg	103	69.1	10.3	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Benzo(a)anthracene	69.1U	U	ug/kg	103	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Benzo(a)pyrene	69.1U	U	ug/kg	103	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Benzo(b)fluoranthene	69.1U	U	ug/kg	103	69.1	24.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Benzo(g,h,i)perylene	69.1U	U	ug/kg	103	69.1	21.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Benzo(k)fluoranthene	69.1U	U	ug/kg	103	69.1	19.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
4-Bromophenyl-phenylether	69.1U	U	ug/kg	278	69.1	23.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Butylbenzylphthalate	69.1U	U	ug/kg	278	69.1	26.8	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Carbazole	69.1U	U	ug/kg	278	69.1	13.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
4-Chloro-3-methylphenol	69.1U	U	ug/kg	278	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356001**	Date Collected:	3/17/2015 13:00	Matrix:	Solid
Sample ID:	**LMSB-1**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	206U	U	ug/kg	278	206	138	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
bis(2-Chloroethoxy)methane	69.1U	U	ug/kg	278	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
bis(2-Chloroethyl)ether	69.1U	U	ug/kg	278	69.1	20.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
bis(2-Chloroisopropyl)ether	69.1U	U	ug/kg	278	69.1	25.8	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Chloronaphthalene	69.1U	U	ug/kg	278	69.1	14.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Chlorophenol	206U	U	ug/kg	278	206	18.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
4-Chlorophenyl-phenylether	69.1U	U	ug/kg	278	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Chrysene	69.1U	U	ug/kg	103	69.1	13.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
mp-Cresol	69.1U	U	ug/kg	278	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
o-Cresol	69.1U	U	ug/kg	278	69.1	22.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Di-n-Butylphthalate	69.1U	U	ug/kg	278	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Di-n-Octylphthalate	69.1U	U	ug/kg	278	69.1	40.2	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Dibenzo(a,h)anthracene	69.1U	U	ug/kg	103	69.1	12.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Dibenzofuran	69.1U	U	ug/kg	278	69.1	11.3	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
1,2-Dichlorobenzene	69.1U	U	ug/kg	278	69.1	13.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
1,3-Dichlorobenzene	69.1U	U	ug/kg	278	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
1,4-Dichlorobenzene	69.1U	U	ug/kg	278	69.1	17.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
3,3-Dichlorobenzidine	206U	U	ug/kg	557	206	72.1	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4-Dichlorophenol	69.1U	U	ug/kg	278	69.1	18.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Diethylphthalate	69.1U	U	ug/kg	278	69.1	13.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4-Dimethylphenol	138U	U	ug/kg	278	138	79.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Dimethylphthalate	69.1U	U	ug/kg	278	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4-Dinitrophenol	824U	U	ug/kg	557	824	66.0	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4-Dinitrotoluene	69.1U	U	ug/kg	278	69.1	29.9	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,6-Dinitrotoluene	69.1U	U	ug/kg	278	69.1	24.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
bis(2-Ethylhexyl)phthalate	206U	U	ug/kg	278	206	23.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Fluoranthene	69.1U	U	ug/kg	103	69.1	19.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Fluorene	69.1U	U	ug/kg	103	69.1	20.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Hexachlorobenzene	69.1U	U	ug/kg	278	69.1	19.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Hexachlorobutadiene	69.1U	U	ug/kg	278	69.1	26.8	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Hexachlorocyclopentadiene	206U	U	ug/kg	278	206	89.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Hexachloroethane	69.1U	U	ug/kg	278	69.1	17.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Indeno(1,2,3-cd)pyrene	69.1U	U	ug/kg	103	69.1	18.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Isophorone	69.1U	U	ug/kg	278	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Methyl-4,6-dinitrophenol	206U	U	ug/kg	278	206	59.8	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Methylnaphthalene	69.1U	U	ug/kg	278	69.1	16.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Naphthalene	69.1U	U	ug/kg	103	69.1	24.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Nitroaniline	206U	U	ug/kg	278	206	134	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356001**	Date Collected:	3/17/2015 13:00	Matrix:	Solid
Sample ID:	**LMSB-1**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	206U	U	ug/kg	278	206	182	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
4-Nitroaniline	206U	U	ug/kg	278	206	144	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Nitrobenzene	69.1U	U	ug/kg	278	69.1	21.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Nitrophenol	69.1U	U	ug/kg	278	69.1	27.8	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
4-Nitrophenol	138U	U	ug/kg	278	138	104	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
N-Nitroso-di-n-propylamine	206U	U	ug/kg	278	206	17.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
N-Nitrosodiphenylamine	69.1U	U	ug/kg	278	69.1	17.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Pentachlorophenol	206U	U	ug/kg	557	206	37.1	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Phenanthrene	69.1U	U	ug/kg	103	69.1	14.4	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Phenol	69.1U	U	ug/kg	278	69.1	15.5	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Pyrene	69.1U	U	ug/kg	103	69.1	18.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
1,2,4-Trichlorobenzene	69.1U	U	ug/kg	278	69.1	23.7	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4,5-Trichlorophenol	69.1U	U	ug/kg	278	69.1	20.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2,4,6-Trichlorophenol	69.1U	U	ug/kg	278	69.1	20.6	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	76		%	35 - 125	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Fluorobiphenyl (S)	73.4		%	45 - 105	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
2-Fluorophenol (S)	70.8		%	35 - 105	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Nitrobenzene-d5 (S)	76		%	35 - 100	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Phenol-d5 (S)	75		%	40 - 100	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A
Terphenyl-d14 (S)	82.2		%	30 - 125	SW846 8270D	3/25/15	BS	3/25/15 10:12	CGS	A

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/25/15 10:12	CGS	A
WET CHEMISTRY												
Moisture	4.9		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	95.1		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	3300		mg/kg	40.4	26.8	13.1	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Antimony, Total	0.66U	U	mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Arsenic, Total	2.5		mg/kg	1.5	1.0	0.51	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Barium, Total	26.7		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Beryllium, Total	0.30J	J	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Cadmium, Total	0.34U	U	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Calcium, Total	160		mg/kg	50.5	33.9	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Chromium, Total	3.4		mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Cobalt, Total	3.2		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Copper, Total	3.5		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356001**	Date Collected:	3/17/2015 13:00	Matrix:	Solid
Sample ID:	**LMSB-1**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	8420		mg/kg	25.3	16.7	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Lead, Total	3.8		mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Magnesium, Total	1430		mg/kg	50.5	33.9	5.1	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Manganese, Total	160		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Mercury, Total	0.038J	J	mg/kg	0.10	0.066	0.033	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Nickel, Total	6.9		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Potassium, Total	563		mg/kg	50.5	33.9	6.6	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Selenium, Total	1.7U	U	mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Silver, Total	0.66U	U	mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Sodium, Total	14.9J	J	mg/kg	50.5	33.9	5.1	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Thallium, Total	0.34U	U	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Vanadium, Total	3.5		mg/kg	1.5	1.0	0.51	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
Zinc, Total	25.6		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:03	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:45	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356002**	Date Collected:	3/17/2015 13:55	Matrix:	Solid
Sample ID:	**LMSB-2**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	5.7U	U	ug/kg	11.4	5.7	3.7	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Benzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Bromochloromethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Bromodichloromethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Bromoform	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Bromomethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
2-Butanone	5.7U	U	ug/kg	11.4	5.7	2.9	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Carbon Disulfide	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Carbon Tetrachloride	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Chlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Chlorodibromomethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Chloroethane	2.9U	U	ug/kg	5.7	2.9	1.3	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Chloroform	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Chloromethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Cyclohexane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2-Dibromo-3-chloropropane	2.9U	U	ug/kg	5.7	2.9	1.7	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2-Dibromoethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,3-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,4-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Dichlorodifluoromethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,1-Dichloroethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2-Dichloroethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,1-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
cis-1,2-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
trans-1,2-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2-Dichloropropane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
cis-1,3-Dichloropropene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
trans-1,3-Dichloropropene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,4-Dioxane	28.5U	U	ug/kg	85.6	28.5	16.9	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Ethylbenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Freon 113	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
2-Hexanone	5.7U	U	ug/kg	11.4	5.7	2.9	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Isopropylbenzene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Methyl acetate	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Methyl cyclohexane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356002**	Date Collected:	3/17/2015 13:55	Matrix:	Solid
Sample ID:	**LMSB-2**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
4-Methyl-2-Pentanone(MIBK)	5.7U	U	ug/kg	11.4	5.7	2.9	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Methylene Chloride	23.2	1	ug/kg	2.3	1.1	0.69	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Styrene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,1,2,2-Tetrachloroethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Tetrachloroethene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Toluene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2,3-Trichlorobenzene	1.9J	J	ug/kg	5.7	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,2,4-Trichlorobenzene	1.4J	J	ug/kg	5.7	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,1,1-Trichloroethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
1,1,2-Trichloroethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Trichloroethene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Trichlorofluoromethane	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Vinyl Chloride	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
o-Xylene	1.1U	U	ug/kg	2.3	1.1	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
mp-Xylene	2.3U	U	ug/kg	4.6	2.3	0.57	SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	120		%	56 - 124			SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
4-Bromofluorobenzene (S)	95.3		%	85 - 120			SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Dibromofluoromethane (S)	104		%	62 - 123			SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
Toluene-d8 (S)	98		%	85 - 115			SW846 8260B	3/20/15	JPA	3/30/15 07:20	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 07:20	CPK	C
SEMIVOLATILES												
Acenaphthene	77.1U	U	ug/kg	115	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Acenaphthylene	77.1U	U	ug/kg	115	77.1	12.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Anthracene	77.1U	U	ug/kg	115	77.1	11.5	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Benzo(a)anthracene	77.1U	U	ug/kg	115	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Benzo(a)pyrene	77.1U	U	ug/kg	115	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Benzo(b)fluoranthene	77.1U	U	ug/kg	115	77.1	27.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Benzo(g,h,i)perylene	77.1U	U	ug/kg	115	77.1	24.2	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Benzo(k)fluoranthene	77.1U	U	ug/kg	115	77.1	21.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
4-Bromophenyl-phenylether	77.1U	U	ug/kg	311	77.1	26.5	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Butylbenzylphthalate	77.1U	U	ug/kg	311	77.1	29.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Carbazole	77.1U	U	ug/kg	311	77.1	15.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
4-Chloro-3-methylphenol	77.1U	U	ug/kg	311	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356002** Date Collected: 3/17/2015 13:55 Matrix: Solid
Sample ID: **LMSB-2** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	230U	U	ug/kg	311	230	154	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
bis(2-Chloroethoxy)methane	77.1U	U	ug/kg	311	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
bis(2-Chloroethyl)ether	77.1U	U	ug/kg	311	77.1	23.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
bis(2-Chloroisopropyl)ether	77.1U	U	ug/kg	311	77.1	28.8	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Chloronaphthalene	77.1U	U	ug/kg	311	77.1	16.1	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Chlorophenol	230U	U	ug/kg	311	230	20.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
4-Chlorophenyl-phenylether	77.1U	U	ug/kg	311	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Chrysene	77.1U	U	ug/kg	115	77.1	15.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
mp-Cresol	77.1U	U	ug/kg	311	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
o-Cresol	77.1U	U	ug/kg	311	77.1	25.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Di-n-Butylphthalate	77.1U	U	ug/kg	311	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Di-n-Octylphthalate	77.1U	U	ug/kg	311	77.1	44.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Dibenzo(a,h)anthracene	77.1U	U	ug/kg	115	77.1	13.8	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Dibenzofuran	77.1U	U	ug/kg	311	77.1	12.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
1,2-Dichlorobenzene	77.1U	U	ug/kg	311	77.1	15.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
1,3-Dichlorobenzene	77.1U	U	ug/kg	311	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
1,4-Dichlorobenzene	77.1U	U	ug/kg	311	77.1	19.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
3,3-Dichlorobenzidine	230U	U	ug/kg	621	230	80.5	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4-Dichlorophenol	77.1U	U	ug/kg	311	77.1	20.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Diethylphthalate	77.1U	U	ug/kg	311	77.1	15.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4-Dimethylphenol	154U	U	ug/kg	311	154	88.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Dimethylphthalate	77.1U	U	ug/kg	311	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4-Dinitrophenol	920U	U	ug/kg	621	920	73.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4-Dinitrotoluene	77.1U	U	ug/kg	311	77.1	33.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,6-Dinitrotoluene	77.1U	U	ug/kg	311	77.1	27.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
bis(2-Ethylhexyl)phthalate	230U	U	ug/kg	311	230	26.5	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Fluoranthene	77.1U	U	ug/kg	115	77.1	21.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Fluorene	77.1U	U	ug/kg	115	77.1	23.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Hexachlorobenzene	77.1U	U	ug/kg	311	77.1	21.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Hexachlorobutadiene	77.1U	U	ug/kg	311	77.1	29.9	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Hexachlorocyclopentadiene	230U	U	ug/kg	311	230	100	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Hexachloroethane	77.1U	U	ug/kg	311	77.1	19.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Indeno(1,2,3-cd)pyrene	77.1U	U	ug/kg	115	77.1	20.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Isophorone	77.1U	U	ug/kg	311	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Methyl-4,6-dinitrophenol	230U	U	ug/kg	311	230	66.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Methylnaphthalene	77.1U	U	ug/kg	311	77.1	18.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Naphthalene	77.1U	U	ug/kg	115	77.1	27.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Nitroaniline	230U	U	ug/kg	311	230	150	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356002**
Sample ID: **LMSB-2**
Date Collected: 3/17/2015 13:55
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	230U	U	ug/kg	311	230	204	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
4-Nitroaniline	230U	U	ug/kg	311	230	161	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Nitrobenzene	77.1U	U	ug/kg	311	77.1	24.2	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Nitrophenol	77.1U	U	ug/kg	311	77.1	31.1	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
4-Nitrophenol	154U	U	ug/kg	311	154	116	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
N-Nitroso-di-n-propylamine	230U	U	ug/kg	311	230	19.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
N-Nitrosodiphenylamine	77.1U	U	ug/kg	311	77.1	19.6	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Pentachlorophenol	230U	U	ug/kg	621	230	41.4	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Phenanthrene	77.1U	U	ug/kg	115	77.1	16.1	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Phenol	77.1U	U	ug/kg	311	77.1	17.3	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Pyrene	77.1U	U	ug/kg	115	77.1	20.7	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
1,2,4-Trichlorobenzene	77.1U	U	ug/kg	311	77.1	26.5	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4,5-Trichlorophenol	77.1U	U	ug/kg	311	77.1	23.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2,4,6-Trichlorophenol	77.1U	U	ug/kg	311	77.1	23.0	SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	72.5		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Fluorobiphenyl (S)	68.1		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
2-Fluorophenol (S)	66.6		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Nitrobenzene-d5 (S)	70.8		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Phenol-d5 (S)	69.6		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
Terphenyl-d14 (S)	69.1		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 10:23	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 10:23	DRS	A
WET CHEMISTRY												
Moisture	13.6		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	86.4		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	3560		mg/kg	39.9	26.4	13.0	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Antimony, Total	0.65U	U	mg/kg	1.0	0.65	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Arsenic, Total	3.1		mg/kg	1.5	1.0	0.50	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Barium, Total	25.9		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Beryllium, Total	0.40J	J	mg/kg	0.50	0.33	0.16	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Cadmium, Total	0.33U	U	mg/kg	0.50	0.33	0.16	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Calcium, Total	220		mg/kg	49.9	33.4	8.0	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Chromium, Total	4.1		mg/kg	1.0	0.65	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Cobalt, Total	4.0		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Copper, Total	4.5		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356002** Date Collected: 3/17/2015 13:55 Matrix: Solid

Sample ID: **LMSB-2** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	8920		mg/kg	25.0	16.5	8.0	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Lead, Total	5.2		mg/kg	1.0	0.65	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Magnesium, Total	1590		mg/kg	49.9	33.4	5.0	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Manganese, Total	196		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Mercury, Total	0.035J	J	mg/kg	0.10	0.065	0.033	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Nickel, Total	8.6		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Potassium, Total	495		mg/kg	49.9	33.4	6.5	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Selenium, Total	1.6U	U	mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Silver, Total	0.65U	U	mg/kg	1.0	0.65	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Sodium, Total	10.3J	J	mg/kg	49.9	33.4	5.0	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Thallium, Total	0.33U	U	mg/kg	0.50	0.33	0.16	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Vanadium, Total	3.9		mg/kg	1.5	1.0	0.50	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
Zinc, Total	29.6		mg/kg	2.5	1.6	0.80	SW846 6020A	3/23/15	AAM	4/3/15 10:14	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:46	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356003**	Date Collected:	3/17/2015 14:05	Matrix:	Solid
Sample ID:	**LMSB-3**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	5.6U	U	ug/kg	11.3	5.6	3.6	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Benzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Bromochloromethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Bromodichloromethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Bromoform	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Bromomethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
2-Butanone	5.6U	U	ug/kg	11.3	5.6	2.8	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Carbon Disulfide	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Carbon Tetrachloride	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Chlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Chlorodibromomethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Chloroethane	2.8U	U	ug/kg	5.6	2.8	1.2	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Chloroform	1.4J	J	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Chloromethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Cyclohexane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2-Dibromo-3-chloropropane	2.8U	U	ug/kg	5.6	2.8	1.7	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2-Dibromoethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,3-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,4-Dichlorobenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Dichlorodifluoromethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,1-Dichloroethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2-Dichloroethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,1-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
cis-1,2-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
trans-1,2-Dichloroethene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2-Dichloropropane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
cis-1,3-Dichloropropene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
trans-1,3-Dichloropropene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,4-Dioxane	28.2U	U	ug/kg	84.5	28.2	16.7	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Ethylbenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Freon 113	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
2-Hexanone	5.6U	U	ug/kg	11.3	5.6	2.8	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Isopropylbenzene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Methyl acetate	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Methyl cyclohexane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356003**	Date Collected:	3/17/2015 14:05	Matrix:	Solid
Sample ID:	**LMSB-3**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
4-Methyl-2-Pentanone(MIBK)	5.6U	U	ug/kg	11.3	5.6	2.8	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Methylene Chloride	11.9	1	ug/kg	2.3	1.1	0.68	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Styrene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,1,2,2-Tetrachloroethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Tetrachloroethene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Toluene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2,3-Trichlorobenzene	1.1U	U	ug/kg	5.6	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,2,4-Trichlorobenzene	1.1U	U	ug/kg	5.6	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,1,1-Trichloroethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
1,1,2-Trichloroethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Trichloroethene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Trichlorofluoromethane	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Vinyl Chloride	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
o-Xylene	1.1U	U	ug/kg	2.3	1.1	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
mp-Xylene	2.3U	U	ug/kg	4.5	2.3	0.56	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	90.2		%	56 - 124	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
4-Bromofluorobenzene (S)	107		%	85 - 120	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Dibromofluoromethane (S)	96		%	62 - 123	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E
Toluene-d8 (S)	102		%	85 - 115	SW846 8260B	3/20/15	JPA	3/30/15 07:43	JPA	E

LIBRARY SEARCH - VOLATILES

No TIC's Detected	.						Lib Search VOC			3/30/15 07:43	CPK	C

SEMIVOLATILES

Acenaphthene	86.2U	U	ug/kg	129	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Acenaphthylene	86.2U	U	ug/kg	129	86.2	14.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Anthracene	86.2U	U	ug/kg	129	86.2	12.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Benzo(a)anthracene	86.2U	U	ug/kg	129	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Benzo(a)pyrene	86.2U	U	ug/kg	129	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Benzo(b)fluoranthene	86.2U	U	ug/kg	129	86.2	30.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Benzo(g,h,i)perylene	86.2U	U	ug/kg	129	86.2	27.0	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Benzo(k)fluoranthene	86.2U	U	ug/kg	129	86.2	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
4-Bromophenyl-phenylether	86.2U	U	ug/kg	348	86.2	29.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Butylbenzylphthalate	86.2U	U	ug/kg	348	86.2	33.5	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Carbazole	86.2U	U	ug/kg	348	86.2	16.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
4-Chloro-3-methylphenol	86.2U	U	ug/kg	348	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356003**

Sample ID: **LMSB-3**

Date Collected: 3/17/2015 14:05

Date Received: 3/19/2015 16:52

Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	257U	U	ug/kg	348	257	172	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
bis(2-Chloroethoxy)methane	86.2U	U	ug/kg	348	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
bis(2-Chloroethyl)ether	86.2U	U	ug/kg	348	86.2	25.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
bis(2-Chloroisopropyl)ether	86.2U	U	ug/kg	348	86.2	32.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Chloronaphthalene	86.2U	U	ug/kg	348	86.2	18.0	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Chlorophenol	257U	U	ug/kg	348	257	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
4-Chlorophenyl-phenylether	86.2U	U	ug/kg	348	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Chrysene	86.2U	U	ug/kg	129	86.2	16.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
mp-Cresol	86.2U	U	ug/kg	348	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
o-Cresol	86.2U	U	ug/kg	348	86.2	28.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Di-n-Butylphthalate	86.2U	U	ug/kg	348	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Di-n-Octylphthalate	86.2U	U	ug/kg	348	86.2	50.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Dibenzo(a,h)anthracene	86.2U	U	ug/kg	129	86.2	15.4	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Dibenzofuran	86.2U	U	ug/kg	348	86.2	14.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
1,2-Dichlorobenzene	86.2U	U	ug/kg	348	86.2	16.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
1,3-Dichlorobenzene	86.2U	U	ug/kg	348	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
1,4-Dichlorobenzene	86.2U	U	ug/kg	348	86.2	21.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
3,3-Dichlorobenzidine	257U	U	ug/kg	695	257	90.1	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4-Dichlorophenol	86.2U	U	ug/kg	348	86.2	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Diethylphthalate	86.2U	U	ug/kg	348	86.2	16.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4-Dimethylphenol	172U	U	ug/kg	348	172	99.1	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Dimethylphthalate	86.2U	U	ug/kg	348	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4-Dinitrophenol	1030U	U	ug/kg	695	1030	82.4	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4-Dinitrotoluene	86.2U	U	ug/kg	348	86.2	37.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,6-Dinitrotoluene	86.2U	U	ug/kg	348	86.2	30.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
bis(2-Ethylhexyl)phthalate	257U	U	ug/kg	348	257	29.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Fluoranthene	86.2U	U	ug/kg	129	86.2	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Fluorene	86.2U	U	ug/kg	129	86.2	25.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Hexachlorobenzene	86.2U	U	ug/kg	348	86.2	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Hexachlorobutadiene	86.2U	U	ug/kg	348	86.2	33.5	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Hexachlorocyclopentadiene	257U	U	ug/kg	348	257	112	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Hexachloroethane	86.2U	U	ug/kg	348	86.2	21.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Indeno(1,2,3-cd)pyrene	86.2U	U	ug/kg	129	86.2	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Isophorone	86.2U	U	ug/kg	348	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Methyl-4,6-dinitrophenol	257U	U	ug/kg	348	257	74.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Methylnaphthalene	86.2U	U	ug/kg	348	86.2	20.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Naphthalene	86.2U	U	ug/kg	129	86.2	30.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Nitroaniline	257U	U	ug/kg	348	257	167	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356003**	Date Collected: 3/17/2015 14:05	Matrix:	Solid
Sample ID: **LMSB-3**	Date Received: 3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	257U	U	ug/kg	348	257	228	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
4-Nitroaniline	257U	U	ug/kg	348	257	180	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Nitrobenzene	86.2U	U	ug/kg	348	86.2	27.0	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Nitrophenol	86.2U	U	ug/kg	348	86.2	34.8	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
4-Nitrophenol	172U	U	ug/kg	348	172	130	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
N-Nitroso-di-n-propylamine	257U	U	ug/kg	348	257	21.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
N-Nitrosodiphenylamine	86.2U	U	ug/kg	348	86.2	21.9	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Pentachlorophenol	257U	U	ug/kg	695	257	46.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Phenanthrene	86.2U	U	ug/kg	129	86.2	18.0	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Phenol	86.2U	U	ug/kg	348	86.2	19.3	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Pyrene	86.2U	U	ug/kg	129	86.2	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
1,2,4-Trichlorobenzene	86.2U	U	ug/kg	348	86.2	29.6	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4,5-Trichlorophenol	86.2U	U	ug/kg	348	86.2	25.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2,4,6-Trichlorophenol	86.2U	U	ug/kg	348	86.2	25.7	SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	76.7		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Fluorobiphenyl (S)	71.5		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
2-Fluorophenol (S)	68.9		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Nitrobenzene-d5 (S)	72.1		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Phenol-d5 (S)	72.3		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
Terphenyl-d14 (S)	74.1		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 11:14	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 11:14	DRS	A
WET CHEMISTRY												
Moisture	23.8		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	76.2		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	5850		mg/kg	47.7	31.6	15.5	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Antimony, Total	0.78U	U	mg/kg	1.2	0.78	0.39	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Arsenic, Total	4.6		mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Barium, Total	44.5		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Beryllium, Total	0.38J	J	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Cadmium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Calcium, Total	322		mg/kg	59.7	40.0	9.5	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Chromium, Total	7.1		mg/kg	1.2	0.78	0.39	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Cobalt, Total	6.3		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Copper, Total	14.0		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356003** Date Collected: 3/17/2015 14:05 Matrix: Solid
Sample ID: **LMSB-3** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	13500		mg/kg	29.8	19.7	9.5	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Lead, Total	9.6		mg/kg	1.2	0.78	0.39	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Magnesium, Total	2200		mg/kg	59.7	40.0	6.0	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Manganese, Total	640		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Mercury, Total	0.074J	J	mg/kg	0.12	0.078	0.039	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Nickel, Total	11.0		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Potassium, Total	796		mg/kg	59.7	40.0	7.8	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Selenium, Total	1.1J	J	mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Silver, Total	0.78U	U	mg/kg	1.2	0.78	0.39	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Sodium, Total	17.8J	J	mg/kg	59.7	40.0	6.0	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Thallium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Vanadium, Total	5.6		mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
Zinc, Total	40.8		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 10:45	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:47	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356004**	Date Collected:	3/17/2015 14:25	Matrix:	Solid
Sample ID:	**LMSB-4**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS												
Acetone	7.3U	U	ug/kg	14.6	7.3	4.7	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Benzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Bromochloromethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Bromodichloromethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Bromoform	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Bromomethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
2-Butanone	7.3U	U	ug/kg	14.6	7.3	3.6	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Carbon Disulfide	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Carbon Tetrachloride	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Chlorobenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Chlorodibromomethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Chloroethane	3.6U	U	ug/kg	7.3	3.6	1.6	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Chloroform	1.3J	J	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Chloromethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Cyclohexane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2-Dibromo-3-chloropropane	3.6U	U	ug/kg	7.3	3.6	2.2	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2-Dibromoethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2-Dichlorobenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,3-Dichlorobenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,4-Dichlorobenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Dichlorodifluoromethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,1-Dichloroethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2-Dichloroethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,1-Dichloroethene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
cis-1,2-Dichloroethene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
trans-1,2-Dichloroethene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2-Dichloropropane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
cis-1,3-Dichloropropene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
trans-1,3-Dichloropropene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,4-Dioxane	36.4U	U	ug/kg	109	36.4	21.6	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Ethylbenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Freon 113	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
2-Hexanone	7.3U	U	ug/kg	14.6	7.3	3.6	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Isopropylbenzene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Methyl acetate	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Methyl cyclohexane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356004**
Sample ID: **LMSB-4**
Date Collected: 3/17/2015 14:25
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
4-Methyl-2-Pentanone(MIBK)	7.3U	U	ug/kg	14.6	7.3	3.6	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Methylene Chloride	18.9	1	ug/kg	2.9	1.5	0.87	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Styrene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,1,2,2-Tetrachloroethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Tetrachloroethene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Toluene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2,3-Trichlorobenzene	1.5U	U	ug/kg	7.3	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,2,4-Trichlorobenzene	1.5U	U	ug/kg	7.3	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,1,1-Trichloroethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
1,1,2-Trichloroethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Trichloroethene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Trichlorofluoromethane	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Vinyl Chloride	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
o-Xylene	1.5U	U	ug/kg	2.9	1.5	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
mp-Xylene	2.9U	U	ug/kg	5.8	2.9	0.73	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.9		%	56 - 124	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
4-Bromofluorobenzene (S)	105		%	85 - 120	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Dibromofluoromethane (S)	95.5		%	62 - 123	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E
Toluene-d8 (S)	99.8		%	85 - 115	SW846 8260B	3/20/15	JPA	3/30/15 08:07	JPA	E

LIBRARY SEARCH - VOLATILES

No TIC's Detected	.						Lib Search VOC			3/30/15 08:07	CPK	C

SEMIVOLATILES

Acenaphthene	91.3U	U	ug/kg	136	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Acenaphthylene	91.3U	U	ug/kg	136	91.3	15.0	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Anthracene	91.3U	U	ug/kg	136	91.3	13.6	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Benzo(a)anthracene	91.3U	U	ug/kg	136	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Benzo(a)pyrene	91.3U	U	ug/kg	136	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Benzo(b)fluoranthene	91.3U	U	ug/kg	136	91.3	32.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Benzo(g,h,i)perylene	91.3U	U	ug/kg	136	91.3	28.6	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Benzo(k)fluoranthene	91.3U	U	ug/kg	136	91.3	25.9	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
4-Bromophenyl-phenylether	91.3U	U	ug/kg	368	91.3	31.3	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Butylbenzylphthalate	91.3U	U	ug/kg	368	91.3	35.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Carbazole	91.3U	U	ug/kg	368	91.3	17.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
4-Chloro-3-methylphenol	91.3U	U	ug/kg	368	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356004**	Date Collected:	3/17/2015 14:25	Matrix:	Solid
Sample ID:	**LMSB-4**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	272U	U	ug/kg	368	272	183	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
bis(2-Chloroethoxy)methane	91.3U	U	ug/kg	368	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
bis(2-Chloroethyl)ether	91.3U	U	ug/kg	368	91.3	27.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
bis(2-Chloroisopropyl)ether	91.3U	U	ug/kg	368	91.3	34.1	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Chloronaphthalene	91.3U	U	ug/kg	368	91.3	19.1	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Chlorophenol	272U	U	ug/kg	368	272	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
4-Chlorophenyl-phenylether	91.3U	U	ug/kg	368	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Chrysene	91.3U	U	ug/kg	136	91.3	17.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
mp-Cresol	91.3U	U	ug/kg	368	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
o-Cresol	91.3U	U	ug/kg	368	91.3	30.0	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Di-n-Butylphthalate	91.3U	U	ug/kg	368	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Di-n-Octylphthalate	91.3U	U	ug/kg	368	91.3	53.1	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Dibenzo(a,h)anthracene	91.3U	U	ug/kg	136	91.3	16.3	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Dibenzofuran	91.3U	U	ug/kg	368	91.3	15.0	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
1,2-Dichlorobenzene	91.3U	U	ug/kg	368	91.3	17.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
1,3-Dichlorobenzene	91.3U	U	ug/kg	368	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
1,4-Dichlorobenzene	91.3U	U	ug/kg	368	91.3	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
3,3-Dichlorobenzidine	272U	U	ug/kg	736	272	95.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4-Dichlorophenol	91.3U	U	ug/kg	368	91.3	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Diethylphthalate	91.3U	U	ug/kg	368	91.3	17.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4-Dimethylphenol	183U	U	ug/kg	368	183	105	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Dimethylphthalate	91.3U	U	ug/kg	368	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4-Dinitrophenol	1090U	U	ug/kg	736	1090	87.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4-Dinitrotoluene	91.3U	U	ug/kg	368	91.3	39.5	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,6-Dinitrotoluene	91.3U	U	ug/kg	368	91.3	32.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
bis(2-Ethylhexyl)phthalate	272U	U	ug/kg	368	272	31.3	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Fluoranthene	91.3U	U	ug/kg	136	91.3	25.9	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Fluorene	91.3U	U	ug/kg	136	91.3	27.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Hexachlorobenzene	91.3U	U	ug/kg	368	91.3	25.9	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Hexachlorobutadiene	91.3U	U	ug/kg	368	91.3	35.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Hexachlorocyclopentadiene	272U	U	ug/kg	368	272	119	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Hexachloroethane	91.3U	U	ug/kg	368	91.3	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Indeno(1,2,3-cd)pyrene	91.3U	U	ug/kg	136	91.3	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Isophorone	91.3U	U	ug/kg	368	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Methyl-4,6-dinitrophenol	272U	U	ug/kg	368	272	79.0	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Methylnaphthalene	91.3U	U	ug/kg	368	91.3	21.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Naphthalene	91.3U	U	ug/kg	136	91.3	32.7	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Nitroaniline	272U	U	ug/kg	368	272	177	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356004**	Date Collected:	3/17/2015 14:25	Matrix:	Solid
Sample ID:	**LMSB-4**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
3-Nitroaniline	272U	U	ug/kg	368	272	241	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
4-Nitroaniline	272U	U	ug/kg	368	272	191	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Nitrobenzene	91.3U	U	ug/kg	368	91.3	28.6	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Nitrophenol	91.3U	U	ug/kg	368	91.3	36.8	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
4-Nitrophenol	183U	U	ug/kg	368	183	138	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
N-Nitroso-di-n-propylamine	272U	U	ug/kg	368	272	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
N-Nitrosodiphenylamine	91.3U	U	ug/kg	368	91.3	23.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Pentachlorophenol	272U	U	ug/kg	736	272	49.0	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Phenanthrene	91.3U	U	ug/kg	136	91.3	19.1	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Phenol	91.3U	U	ug/kg	368	91.3	20.4	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Pyrene	91.3U	U	ug/kg	136	91.3	24.5	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
1,2,4-Trichlorobenzene	91.3U	U	ug/kg	368	91.3	31.3	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4,5-Trichlorophenol	91.3U	U	ug/kg	368	91.3	27.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2,4,6-Trichlorophenol	91.3U	U	ug/kg	368	91.3	27.2	SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	71.2		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Fluorobiphenyl (S)	67.9		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
2-Fluorophenol (S)	66.4		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Nitrobenzene-d5 (S)	69.5		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Phenol-d5 (S)	69.1		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
Terphenyl-d14 (S)	71.6		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 11:40	GEC	A
WET CHEMISTRY												
Moisture	29.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	71.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	7950		mg/kg	54.1	35.9	17.6	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Antimony, Total	0.88U	U	mg/kg	1.4	0.88	0.45	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Arsenic, Total	5.1		mg/kg	2.0	1.4	0.68	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Barium, Total	69.7		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Beryllium, Total	0.63J	J	mg/kg	0.68	0.45	0.22	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Cadmium, Total	0.45U	U	mg/kg	0.68	0.45	0.22	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Calcium, Total	311		mg/kg	67.7	45.3	10.8	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Chromium, Total	24.1		mg/kg	1.4	0.88	0.45	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Cobalt, Total	9.0		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Copper, Total	20.9		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Iron, Total	23100		mg/kg	33.8	22.3	10.8	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Lead, Total	15.2		mg/kg	1.4	0.88	0.45	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356004**	Date Collected:	3/17/2015 14:25	Matrix:	Solid
Sample ID:	**LMSB-4**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Magnesium, Total	3360		mg/kg	67.7	45.3	6.8	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Manganese, Total	1190		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Mercury, Total	0.088U	U	mg/kg	0.14	0.088	0.045	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Nickel, Total	26.5		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Potassium, Total	1430		mg/kg	67.7	45.3	8.8	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Selenium, Total	2.2U	U	mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Silver, Total	0.88U	U	mg/kg	1.4	0.88	0.45	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Sodium, Total	33.8J	J	mg/kg	67.7	45.3	6.8	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Thallium, Total	0.45U	U	mg/kg	0.68	0.45	0.22	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Vanadium, Total	7.7		mg/kg	2.0	1.4	0.68	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
Zinc, Total	51.4		mg/kg	3.4	2.2	1.1	SW846 6020A	3/23/15	AAM	4/3/15 10:18	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:47	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356005** Date Collected: 3/18/2015 08:10 Matrix: Solid
Sample ID: **LMSB-5** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	10.1J	J	ug/kg	13.5	6.8	4.3	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Benzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Bromochloromethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Bromodichloromethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Bromoform	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Bromomethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
2-Butanone	6.8U	U	ug/kg	13.5	6.8	3.4	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Carbon Disulfide	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Carbon Tetrachloride	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Chlorobenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Chlorodibromomethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Chloroethane	3.4U	U	ug/kg	6.8	3.4	1.5	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Chloroform	1.2J	J	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Chloromethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Cyclohexane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2-Dibromo-3-chloropropane	3.4U	U	ug/kg	6.8	3.4	2.0	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2-Dibromoethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2-Dichlorobenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,3-Dichlorobenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,4-Dichlorobenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Dichlorodifluoromethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,1-Dichloroethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2-Dichloroethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,1-Dichloroethene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
cis-1,2-Dichloroethene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
trans-1,2-Dichloroethene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2-Dichloropropane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
cis-1,3-Dichloropropene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
trans-1,3-Dichloropropene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,4-Dioxane	33.8U	U	ug/kg	101	33.8	20.0	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Ethylbenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Freon 113	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
2-Hexanone	6.8U	U	ug/kg	13.5	6.8	3.4	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Isopropylbenzene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Methyl acetate	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Methyl cyclohexane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356005** Date Collected: 3/18/2015 08:10 Matrix: Solid
Sample ID: **LMSB-5** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
4-Methyl-2-Pentanone(MIBK)	6.8U	U	ug/kg	13.5	6.8	3.4	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Methylene Chloride	14.5	1	ug/kg	2.7	1.4	0.81	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Styrene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,1,2,2-Tetrachloroethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Tetrachloroethene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Toluene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2,3-Trichlorobenzene	1.4U	U	ug/kg	6.8	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,2,4-Trichlorobenzene	1.4U	U	ug/kg	6.8	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,1,1-Trichloroethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
1,1,2-Trichloroethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Trichloroethene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Trichlorofluoromethane	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Vinyl Chloride	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
o-Xylene	1.4U	U	ug/kg	2.7	1.4	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
mp-Xylene	2.7U	U	ug/kg	5.4	2.7	0.68	SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.1		%	56 - 124			SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
4-Bromofluorobenzene (S)	104		%	85 - 120			SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Dibromofluoromethane (S)	95.1		%	62 - 123			SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
Toluene-d8 (S)	102		%	85 - 115			SW846 8260B	3/20/15	JPA	3/30/15 08:30	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 08:30	CPK	C
SEMIVOLATILES												
Acenaphthene	104U	U	ug/kg	155	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Acenaphthylene	104U	U	ug/kg	155	104	17.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Anthracene	104U	U	ug/kg	155	104	15.5	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Benzo(a)anthracene	104U	U	ug/kg	155	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Benzo(a)pyrene	104U	U	ug/kg	155	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Benzo(b)fluoranthene	104U	U	ug/kg	155	104	37.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Benzo(g,h,i)perylene	104U	U	ug/kg	155	104	32.5	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Benzo(k)fluoranthene	104U	U	ug/kg	155	104	29.4	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
4-Bromophenyl-phenylether	104U	U	ug/kg	418	104	35.6	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Butylbenzylphthalate	104U	U	ug/kg	418	104	40.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Carbazole	104U	U	ug/kg	418	104	20.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
4-Chloro-3-methylphenol	104U	U	ug/kg	418	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356005**	Date Collected:	3/18/2015 08:10	Matrix:	Solid
Sample ID:	**LMSB-5**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	310U	U	ug/kg	418	310	207	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
bis(2-Chloroethoxy)methane	104U	U	ug/kg	418	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
bis(2-Chloroethyl)ether	104U	U	ug/kg	418	104	31.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
bis(2-Chloroisopropyl)ether	104U	U	ug/kg	418	104	38.7	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Chloronaphthalene	104U	U	ug/kg	418	104	21.7	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Chlorophenol	310U	U	ug/kg	418	310	27.9	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
4-Chlorophenyl-phenylether	104U	U	ug/kg	418	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Chrysene	104U	U	ug/kg	155	104	20.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
mp-Cresol	104U	U	ug/kg	418	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
o-Cresol	104U	U	ug/kg	418	104	34.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Di-n-Butylphthalate	104U	U	ug/kg	418	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Di-n-Octylphthalate	104U	U	ug/kg	418	104	60.4	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Dibenzo(a,h)anthracene	104U	U	ug/kg	155	104	18.6	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Dibenzofuran	104U	U	ug/kg	418	104	17.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
1,2-Dichlorobenzene	104U	U	ug/kg	418	104	20.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
1,3-Dichlorobenzene	104U	U	ug/kg	418	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
1,4-Dichlorobenzene	104U	U	ug/kg	418	104	26.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
3,3-Dichlorobenzidine	310U	U	ug/kg	836	310	108	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4-Dichlorophenol	104U	U	ug/kg	418	104	27.9	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Diethylphthalate	104U	U	ug/kg	418	104	20.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4-Dimethylphenol	207U	U	ug/kg	418	207	119	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Dimethylphthalate	104U	U	ug/kg	418	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4-Dinitrophenol	1240U	U	ug/kg	836	1240	99.1	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4-Dinitrotoluene	104U	U	ug/kg	418	104	44.9	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,6-Dinitrotoluene	104U	U	ug/kg	418	104	37.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
bis(2-Ethylhexyl)phthalate	310U	U	ug/kg	418	310	35.6	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Fluoranthene	104U	U	ug/kg	155	104	29.4	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Fluorene	104U	U	ug/kg	155	104	31.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Hexachlorobenzene	104U	U	ug/kg	418	104	29.4	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Hexachlorobutadiene	104U	U	ug/kg	418	104	40.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Hexachlorocyclopentadiene	310U	U	ug/kg	418	310	135	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Hexachloroethane	104U	U	ug/kg	418	104	26.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Indeno(1,2,3-cd)pyrene	104U	U	ug/kg	155	104	27.9	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Isophorone	104U	U	ug/kg	418	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Methyl-4,6-dinitrophenol	310U	U	ug/kg	418	310	89.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Methylnaphthalene	104U	U	ug/kg	418	104	24.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Naphthalene	104U	U	ug/kg	155	104	37.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Nitroaniline	310U	U	ug/kg	418	310	201	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356005** Date Collected: 3/18/2015 08:10 Matrix: Solid
Sample ID: **LMSB-5** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	310U	U	ug/kg	418	310	274	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
4-Nitroaniline	310U	U	ug/kg	418	310	217	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Nitrobenzene	104U	U	ug/kg	418	104	32.5	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Nitrophenol	104U	U	ug/kg	418	104	41.8	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
4-Nitrophenol	207U	U	ug/kg	418	207	156	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
N-Nitroso-di-n-propylamine	310U	U	ug/kg	418	310	26.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
N-Nitrosodiphenylamine	104U	U	ug/kg	418	104	26.3	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Pentachlorophenol	310U	U	ug/kg	836	310	55.7	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Phenanthrene	104U	U	ug/kg	155	104	21.7	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Phenol	104U	U	ug/kg	418	104	23.2	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Pyrene	104U	U	ug/kg	155	104	27.9	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
1,2,4-Trichlorobenzene	104U	U	ug/kg	418	104	35.6	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4,5-Trichlorophenol	104U	U	ug/kg	418	104	31.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2,4,6-Trichlorophenol	104U	U	ug/kg	418	104	31.0	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	80.1		%	35 - 125	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Fluorobiphenyl (S)	72.1		%	45 - 105	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
2-Fluorophenol (S)	71.2		%	35 - 105	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Nitrobenzene-d5 (S)	77.1		%	35 - 100	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Phenol-d5 (S)	76.4		%	40 - 100	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A
Terphenyl-d14 (S)	77.1		%	30 - 125	SW846 8270D	3/27/15	BS	3/28/15 16:22	GEC	A

WET CHEMISTRY												
Moisture	38.3		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	61.7		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	8940		mg/kg	64.8	42.9	21.1	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Antimony, Total	1.1U	U	mg/kg	1.6	1.1	0.53	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Arsenic, Total	5.0		mg/kg	2.4	1.6	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Barium, Total	47.4		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Beryllium, Total	0.47J	J	mg/kg	0.81	0.54	0.27	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Cadmium, Total	0.54U	U	mg/kg	0.81	0.54	0.27	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Calcium, Total	697		mg/kg	81.0	54.3	13.0	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Chromium, Total	9.7		mg/kg	1.6	1.1	0.53	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Cobalt, Total	9.3		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Copper, Total	9.7		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Iron, Total	18100		mg/kg	40.5	26.7	13.0	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Lead, Total	11.8		mg/kg	1.6	1.1	0.53	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356005** Date Collected: 3/18/2015 08:10 Matrix: Solid
Sample ID: **LMSB-5** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Magnesium, Total	3060		mg/kg	81.0	54.3	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Manganese, Total	356		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Mercury, Total	0.086J	J	mg/kg	0.16	0.11	0.053	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Nickel, Total	12.0		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Potassium, Total	735		mg/kg	81.0	54.3	10.5	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Selenium, Total	1.8J	J	mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Silver, Total	1.1U	U	mg/kg	1.6	1.1	0.53	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Sodium, Total	19.4J	J	mg/kg	81.0	54.3	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Thallium, Total	0.54U	U	mg/kg	0.81	0.54	0.27	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Vanadium, Total	9.1		mg/kg	2.4	1.6	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
Zinc, Total	45.2		mg/kg	4.1	2.7	1.3	SW846 6020A	3/23/15	AAM	4/3/15 10:48	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:47	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356006** Date Collected: 3/18/2015 08:45 Matrix: Solid
Sample ID: **LMSB-6** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	5.4U	U	ug/kg	10.8	5.4	3.4	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Benzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Bromochloromethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Bromodichloromethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Bromoform	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Bromomethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
2-Butanone	5.4U	U	ug/kg	10.8	5.4	2.7	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Carbon Disulfide	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Carbon Tetrachloride	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Chlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Chlorodibromomethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Chloroethane	2.7U	U	ug/kg	5.4	2.7	1.2	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Chloroform	1.4J	J	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Chloromethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Cyclohexane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2-Dibromo-3-chloropropane	2.7U	U	ug/kg	5.4	2.7	1.6	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2-Dibromoethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,3-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,4-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Dichlorodifluoromethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,1-Dichloroethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2-Dichloroethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,1-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
cis-1,2-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
trans-1,2-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2-Dichloropropane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
cis-1,3-Dichloropropene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
trans-1,3-Dichloropropene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,4-Dioxane	26.9U	U	ug/kg	80.7	26.9	15.9	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Ethylbenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Freon 113	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
2-Hexanone	5.4U	U	ug/kg	10.8	5.4	2.7	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Isopropylbenzene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Methyl acetate	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Methyl cyclohexane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356006**	Date Collected:	3/18/2015 08:45	Matrix:	Solid
Sample ID:	**LMSB-6**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
4-Methyl-2-Pentanone(MIBK)	5.4U	U	ug/kg	10.8	5.4	2.7	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Methylene Chloride	10.8	1	ug/kg	2.2	1.1	0.65	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Styrene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,1,2,2-Tetrachloroethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Tetrachloroethene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Toluene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2,3-Trichlorobenzene	1.1U	U	ug/kg	5.4	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,2,4-Trichlorobenzene	1.1U	U	ug/kg	5.4	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,1,1-Trichloroethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
1,1,2-Trichloroethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Trichloroethene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Trichlorofluoromethane	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Vinyl Chloride	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
o-Xylene	1.1U	U	ug/kg	2.2	1.1	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
mp-Xylene	2.2U	U	ug/kg	4.3	2.2	0.54	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	89.5		%	56 - 124	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
4-Bromofluorobenzene (S)	105		%	85 - 120	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Dibromofluoromethane (S)	95.3		%	62 - 123	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E
Toluene-d8 (S)	105		%	85 - 115	SW846 8260B	3/20/15	JPA	3/30/15 08:53	JPA	E

LIBRARY SEARCH - VOLATILES

Parameters	Results	Method	Analyzed	By	Cntr
No TIC's Detected	.	Lib Search VOC	3/30/15 08:53	CPK	C

SEMIVOLATILES

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	79.4U	U	ug/kg	119	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Acenaphthylene	79.4U	U	ug/kg	119	79.4	13.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Anthracene	79.4U	U	ug/kg	119	79.4	11.9	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Benzo(a)anthracene	79.4U	U	ug/kg	119	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Benzo(a)pyrene	79.4U	U	ug/kg	119	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Benzo(b)fluoranthene	79.4U	U	ug/kg	119	79.4	28.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Benzo(g,h,i)perylene	79.4U	U	ug/kg	119	79.4	24.9	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Benzo(k)fluoranthene	79.4U	U	ug/kg	119	79.4	22.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
4-Bromophenyl-phenylether	79.4U	U	ug/kg	320	79.4	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Butylbenzylphthalate	79.4U	U	ug/kg	320	79.4	30.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Carbazole	79.4U	U	ug/kg	320	79.4	15.4	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
4-Chloro-3-methylphenol	79.4U	U	ug/kg	320	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356006**	Date Collected:	3/18/2015 08:45	Matrix:	Solid
Sample ID:	**LMSB-6**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	237U	U	ug/kg	320	237	159	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
bis(2-Chloroethoxy)methane	79.4U	U	ug/kg	320	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
bis(2-Chloroethyl)ether	79.4U	U	ug/kg	320	79.4	23.7	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
bis(2-Chloroisopropyl)ether	79.4U	U	ug/kg	320	79.4	29.6	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Chloronaphthalene	79.4U	U	ug/kg	320	79.4	16.6	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Chlorophenol	237U	U	ug/kg	320	237	21.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
4-Chlorophenyl-phenylether	79.4U	U	ug/kg	320	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Chrysene	79.4U	U	ug/kg	119	79.4	15.4	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
mp-Cresol	79.4U	U	ug/kg	320	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
o-Cresol	79.4U	U	ug/kg	320	79.4	26.1	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Di-n-Butylphthalate	79.4U	U	ug/kg	320	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Di-n-Octylphthalate	79.4U	U	ug/kg	320	79.4	46.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Dibenzo(a,h)anthracene	79.4U	U	ug/kg	119	79.4	14.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Dibenzofuran	79.4U	U	ug/kg	320	79.4	13.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
1,2-Dichlorobenzene	79.4U	U	ug/kg	320	79.4	15.4	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
1,3-Dichlorobenzene	79.4U	U	ug/kg	320	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
1,4-Dichlorobenzene	79.4U	U	ug/kg	320	79.4	20.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
3,3-Dichlorobenzidine	237U	U	ug/kg	640	237	83.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4-Dichlorophenol	79.4U	U	ug/kg	320	79.4	21.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Diethylphthalate	79.4U	U	ug/kg	320	79.4	15.4	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4-Dimethylphenol	159U	U	ug/kg	320	159	91.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Dimethylphthalate	79.4U	U	ug/kg	320	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4-Dinitrophenol	948U	U	ug/kg	640	948	75.9	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4-Dinitrotoluene	79.4U	U	ug/kg	320	79.4	34.4	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,6-Dinitrotoluene	79.4U	U	ug/kg	320	79.4	28.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
bis(2-Ethylhexyl)phthalate	237U	U	ug/kg	320	237	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Fluoranthene	79.4U	U	ug/kg	119	79.4	22.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Fluorene	79.4U	U	ug/kg	119	79.4	23.7	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Hexachlorobenzene	79.4U	U	ug/kg	320	79.4	22.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Hexachlorobutadiene	79.4U	U	ug/kg	320	79.4	30.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Hexachlorocyclopentadiene	237U	U	ug/kg	320	237	103	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Hexachloroethane	79.4U	U	ug/kg	320	79.4	20.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Indeno(1,2,3-cd)pyrene	79.4U	U	ug/kg	119	79.4	21.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Isophorone	79.4U	U	ug/kg	320	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Methyl-4,6-dinitrophenol	237U	U	ug/kg	320	237	68.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Methylnaphthalene	79.4U	U	ug/kg	320	79.4	19.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Naphthalene	79.4U	U	ug/kg	119	79.4	28.5	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Nitroaniline	237U	U	ug/kg	320	237	154	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356006**	Date Collected:	3/18/2015 08:45	Matrix:	Solid
Sample ID:	**LMSB-6**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	237U	U	ug/kg	320	237	210	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
4-Nitroaniline	237U	U	ug/kg	320	237	166	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Nitrobenzene	79.4U	U	ug/kg	320	79.4	24.9	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Nitrophenol	79.4U	U	ug/kg	320	79.4	32.0	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
4-Nitrophenol	159U	U	ug/kg	320	159	120	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
N-Nitroso-di-n-propylamine	237U	U	ug/kg	320	237	20.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
N-Nitrosodiphenylamine	79.4U	U	ug/kg	320	79.4	20.2	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Pentachlorophenol	237U	U	ug/kg	640	237	42.7	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Phenanthrene	79.4U	U	ug/kg	119	79.4	16.6	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Phenol	79.4U	U	ug/kg	320	79.4	17.8	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Pyrene	79.4U	U	ug/kg	119	79.4	21.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
1,2,4-Trichlorobenzene	79.4U	U	ug/kg	320	79.4	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4,5-Trichlorophenol	79.4U	U	ug/kg	320	79.4	23.7	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2,4,6-Trichlorophenol	79.4U	U	ug/kg	320	79.4	23.7	SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	74.4		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Fluorobiphenyl (S)	73.2		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
2-Fluorophenol (S)	71.3		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Nitrobenzene-d5 (S)	74.8		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Phenol-d5 (S)	74.2		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
Terphenyl-d14 (S)	73.2		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:05	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 12:05	DRS	A
WET CHEMISTRY												
Moisture	16.8		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	83.2		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	4310		mg/kg	44.5	29.5	14.5	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Antimony, Total	0.72U	U	mg/kg	1.1	0.72	0.37	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Arsenic, Total	3.0		mg/kg	1.7	1.1	0.56	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Barium, Total	35.4		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Beryllium, Total	0.23J	J	mg/kg	0.56	0.37	0.18	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Cadmium, Total	0.37U	U	mg/kg	0.56	0.37	0.18	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Calcium, Total	120		mg/kg	55.6	37.3	8.9	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Chromium, Total	4.8		mg/kg	1.1	0.72	0.37	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Cobalt, Total	4.3		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Copper, Total	6.0		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356006**
Date Collected: 3/18/2015 08:45
Matrix: Solid
Sample ID: **LMSB-6**
Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	9110		mg/kg	27.8	18.4	8.9	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Lead, Total	9.4		mg/kg	1.1	0.72	0.37	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Magnesium, Total	1400		mg/kg	55.6	37.3	5.6	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Manganese, Total	278		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Mercury, Total	0.054J	J	mg/kg	0.11	0.072	0.037	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Nickel, Total	6.5		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Potassium, Total	450		mg/kg	55.6	37.3	7.2	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Selenium, Total	1.8U	U	mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Silver, Total	0.72U	U	mg/kg	1.1	0.72	0.37	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Sodium, Total	16.9J	J	mg/kg	55.6	37.3	5.6	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Thallium, Total	0.37U	U	mg/kg	0.56	0.37	0.18	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Vanadium, Total	4.7		mg/kg	1.7	1.1	0.56	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
Zinc, Total	28.1		mg/kg	2.8	1.8	0.89	SW846 6020A	3/23/15	AAM	4/3/15 10:52	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:47	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356007**	Date Collected:	3/18/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-7**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	40.7		ug/kg	12.3	6.2	3.9	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Benzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Bromochloromethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Bromodichloromethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Bromoform	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Bromomethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
2-Butanone	6.4J	J	ug/kg	12.3	6.2	3.1	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Carbon Disulfide	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Carbon Tetrachloride	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Chlorobenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Chlorodibromomethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Chloroethane	3.1U	U	ug/kg	6.2	3.1	1.4	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Chloroform	1.4J	J	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Chloromethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Cyclohexane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2-Dibromo-3-chloropropane	3.1U	U	ug/kg	6.2	3.1	1.8	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2-Dibromoethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2-Dichlorobenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,3-Dichlorobenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,4-Dichlorobenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Dichlorodifluoromethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,1-Dichloroethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2-Dichloroethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,1-Dichloroethene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
cis-1,2-Dichloroethene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
trans-1,2-Dichloroethene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2-Dichloropropane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
cis-1,3-Dichloropropene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
trans-1,3-Dichloropropene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,4-Dioxane	30.8U	U	ug/kg	92.3	30.8	18.2	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Ethylbenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Freon 113	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
2-Hexanone	6.2U	U	ug/kg	12.3	6.2	3.1	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Isopropylbenzene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Methyl acetate	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Methyl cyclohexane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356007** Date Collected: 3/18/2015 09:15 Matrix: Solid
Sample ID: **LMSB-7** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
4-Methyl-2-Pentanone(MIBK)	6.2U	U	ug/kg	12.3	6.2	3.1	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Methylene Chloride	13.7	1	ug/kg	2.5	1.2	0.74	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Styrene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,1,2,2-Tetrachloroethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Tetrachloroethene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Toluene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2,3-Trichlorobenzene	1.2U	U	ug/kg	6.2	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,2,4-Trichlorobenzene	1.2U	U	ug/kg	6.2	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,1,1-Trichloroethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1,1,2-Trichloroethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Trichloroethene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Trichlorofluoromethane	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Vinyl Chloride	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
o-Xylene	1.2U	U	ug/kg	2.5	1.2	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
mp-Xylene	2.5U	U	ug/kg	4.9	2.5	0.62	SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.4		%	56 - 124			SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
4-Bromofluorobenzene (S)	102		%	85 - 120			SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Dibromofluoromethane (S)	95.7		%	62 - 123			SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Toluene-d8 (S)	98.8		%	85 - 115			SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Library Search - Volatiles												
1-Propene	4.8	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
1-Butene	4.7	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
.alpha.-Pinene	72.3	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
Camphene	14.8	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
.beta.-Pinene	6.9	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
dl-Limonene	10.0	J N	ug/kg				SW846 8260B	3/20/15	JPA	3/30/15 09:16	JPA	E
SEMIVOLATILES												
Acenaphthene	76.3U	U	ug/kg	114	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Acenaphthylene	76.3U	U	ug/kg	114	76.3	12.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Anthracene	76.3U	U	ug/kg	114	76.3	11.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Benzo(a)anthracene	76.3U	U	ug/kg	114	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Benzo(a)pyrene	76.3U	U	ug/kg	114	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Benzo(b)fluoranthene	76.3U	U	ug/kg	114	76.3	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Benzo(g,h,i)perylene	76.3U	U	ug/kg	114	76.3	23.9	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356007**	Date Collected:	3/18/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-7**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Benzo(k)fluoranthene	76.3U	U	ug/kg	114	76.3	21.6	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Bromophenyl-phenylether	76.3U	U	ug/kg	308	76.3	26.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Butylbenzylphthalate	76.3U	U	ug/kg	308	76.3	29.6	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Carbazole	76.3U	U	ug/kg	308	76.3	14.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Chloro-3-methylphenol	76.3U	U	ug/kg	308	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Chloroaniline	228U	U	ug/kg	308	228	153	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
bis(2-Chloroethoxy)methane	76.3U	U	ug/kg	308	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
bis(2-Chloroethyl)ether	76.3U	U	ug/kg	308	76.3	22.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
bis(2-Chloroisopropyl)ether	76.3U	U	ug/kg	308	76.3	28.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Chloronaphthalene	76.3U	U	ug/kg	308	76.3	15.9	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Chlorophenol	228U	U	ug/kg	308	228	20.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Chlorophenyl-phenylether	76.3U	U	ug/kg	308	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Chrysene	76.3U	U	ug/kg	114	76.3	14.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
mp-Cresol	76.3U	U	ug/kg	308	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
o-Cresol	76.3U	U	ug/kg	308	76.3	25.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Di-n-Butylphthalate	76.3U	U	ug/kg	308	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Di-n-Octylphthalate	76.3U	U	ug/kg	308	76.3	44.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Dibenzo(a,h)anthracene	76.3U	U	ug/kg	114	76.3	13.7	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Dibenzofuran	76.3U	U	ug/kg	308	76.3	12.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
1,2-Dichlorobenzene	76.3U	U	ug/kg	308	76.3	14.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
1,3-Dichlorobenzene	76.3U	U	ug/kg	308	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
1,4-Dichlorobenzene	76.3U	U	ug/kg	308	76.3	19.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
3,3-Dichlorobenzidine	228U	U	ug/kg	615	228	79.7	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4-Dichlorophenol	76.3U	U	ug/kg	308	76.3	20.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Diethylphthalate	76.3U	U	ug/kg	308	76.3	14.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4-Dimethylphenol	153U	U	ug/kg	308	153	87.7	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Dimethylphthalate	76.3U	U	ug/kg	308	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4-Dinitrophenol	911U	U	ug/kg	615	911	72.9	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4-Dinitrotoluene	76.3U	U	ug/kg	308	76.3	33.0	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,6-Dinitrotoluene	76.3U	U	ug/kg	308	76.3	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
bis(2-Ethylhexyl)phthalate	228U	U	ug/kg	308	228	26.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Fluoranthene	76.3U	U	ug/kg	114	76.3	21.6	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Fluorene	76.3U	U	ug/kg	114	76.3	22.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Hexachlorobenzene	76.3U	U	ug/kg	308	76.3	21.6	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Hexachlorobutadiene	76.3U	U	ug/kg	308	76.3	29.6	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Hexachlorocyclopentadiene	228U	U	ug/kg	308	228	99.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Hexachloroethane	76.3U	U	ug/kg	308	76.3	19.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Indeno(1,2,3-cd)pyrene	76.3U	U	ug/kg	114	76.3	20.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356007**	Date Collected:	3/18/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-7**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Isophorone	76.3U	U	ug/kg	308	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Methyl-4,6-dinitrophenol	228U	U	ug/kg	308	228	66.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Methylnaphthalene	76.3U	U	ug/kg	308	76.3	18.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Naphthalene	76.3U	U	ug/kg	114	76.3	27.3	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Nitroaniline	228U	U	ug/kg	308	228	148	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
3-Nitroaniline	228U	U	ug/kg	308	228	202	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Nitroaniline	228U	U	ug/kg	308	228	159	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Nitrobenzene	76.3U	U	ug/kg	308	76.3	23.9	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Nitrophenol	76.3U	U	ug/kg	308	76.3	30.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
4-Nitrophenol	153U	U	ug/kg	308	153	115	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
N-Nitroso-di-n-propylamine	228U	U	ug/kg	308	228	19.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
N-Nitrosodiphenylamine	76.3U	U	ug/kg	308	76.3	19.4	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Pentachlorophenol	228U	U	ug/kg	615	228	41.0	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Phenanthrene	76.3U	U	ug/kg	114	76.3	15.9	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Phenol	76.3U	U	ug/kg	308	76.3	17.1	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Pyrene	76.3U	U	ug/kg	114	76.3	20.5	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
1,2,4-Trichlorobenzene	76.3U	U	ug/kg	308	76.3	26.2	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4,5-Trichlorophenol	76.3U	U	ug/kg	308	76.3	22.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2,4,6-Trichlorophenol	76.3U	U	ug/kg	308	76.3	22.8	SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	77.5		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Fluorobiphenyl (S)	74		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
2-Fluorophenol (S)	73.4		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Nitrobenzene-d5 (S)	76.9		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Phenol-d5 (S)	77.1		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
Terphenyl-d14 (S)	74.1		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:31	GEC	A
WET CHEMISTRY												
Moisture	13.4		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	86.6		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	5180		mg/kg	40.5	26.8	13.2	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Antimony, Total	0.66U	U	mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Arsenic, Total	4.2		mg/kg	1.5	1.0	0.51	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Barium, Total	41.3		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Beryllium, Total	0.35J	J	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Cadmium, Total	0.34U	U	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Calcium, Total	153		mg/kg	50.6	33.9	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356007** Date Collected: 3/18/2015 09:15 Matrix: Solid
Sample ID: **LMSB-7** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Chromium, Total	8.5		mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Cobalt, Total	5.6		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Copper, Total	9.0		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Iron, Total	13000		mg/kg	25.3	16.7	8.1	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Lead, Total	9.6		mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Magnesium, Total	1980		mg/kg	50.6	33.9	5.1	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Manganese, Total	660		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Mercury, Total	0.042J	J	mg/kg	0.10	0.066	0.033	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Nickel, Total	11.8		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Potassium, Total	718		mg/kg	50.6	33.9	6.6	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Selenium, Total	1.7U	U	mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Silver, Total	0.66U	U	mg/kg	1.0	0.66	0.33	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Sodium, Total	17.3J	J	mg/kg	50.6	33.9	5.1	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Thallium, Total	0.34U	U	mg/kg	0.51	0.34	0.17	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Vanadium, Total	5.2		mg/kg	1.5	1.0	0.51	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
Zinc, Total	38.9		mg/kg	2.5	1.7	0.81	SW846 6020A	3/23/15	AAM	4/3/15 10:56	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 14:48	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356008**	Date Collected:	3/18/2015 09:50	Matrix:	Solid
Sample ID:	**LMSB-8**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	121		ug/kg	11.1	5.5	3.5	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Benzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Bromochloromethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Bromodichloromethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Bromoform	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Bromomethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
2-Butanone	12.4		ug/kg	11.1	5.5	2.8	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Carbon Disulfide	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Carbon Tetrachloride	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Chlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Chlorodibromomethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Chloroethane	2.8U	U	ug/kg	5.5	2.8	1.2	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Chloroform	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Chloromethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Cyclohexane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2-Dibromo-3-chloropropane	2.8U	U	ug/kg	5.5	2.8	1.7	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2-Dibromoethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,3-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,4-Dichlorobenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Dichlorodifluoromethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,1-Dichloroethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2-Dichloroethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,1-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
cis-1,2-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
trans-1,2-Dichloroethene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2-Dichloropropane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
cis-1,3-Dichloropropene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
trans-1,3-Dichloropropene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,4-Dioxane	27.7U	U	ug/kg	83.1	27.7	16.4	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Ethylbenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Freon 113	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
2-Hexanone	5.5U	U	ug/kg	11.1	5.5	2.8	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Isopropylbenzene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Methyl acetate	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Methyl cyclohexane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356008**	Date Collected:	3/18/2015 09:50	Matrix:	Solid
Sample ID:	**LMSB-8**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
4-Methyl-2-Pentanone(MIBK)	5.5U	U	ug/kg	11.1	5.5	2.8	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Methylene Chloride	7.9	1	ug/kg	2.2	1.1	0.66	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Styrene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,1,2,2-Tetrachloroethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Tetrachloroethene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Toluene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2,3-Trichlorobenzene	1.1U	U	ug/kg	5.5	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,2,4-Trichlorobenzene	1.1U	U	ug/kg	5.5	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,1,1-Trichloroethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
1,1,2-Trichloroethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Trichloroethene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Trichlorofluoromethane	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Vinyl Chloride	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
o-Xylene	1.1U	U	ug/kg	2.2	1.1	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
mp-Xylene	2.2U	U	ug/kg	4.4	2.2	0.55	SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	92.7		%	56 - 124			SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
4-Bromofluorobenzene (S)	102		%	85 - 120			SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Dibromofluoromethane (S)	93.8		%	62 - 123			SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
Toluene-d8 (S)	99.9		%	85 - 115			SW846 8260B	3/20/15	TMP	3/30/15 10:49	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 10:49	CPK	C
SEMIVOLATILES												
Acenaphthene	76.7U	U	ug/kg	115	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Acenaphthylene	76.7U	U	ug/kg	115	76.7	12.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Anthracene	76.7U	U	ug/kg	115	76.7	11.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Benzo(a)anthracene	76.7U	U	ug/kg	115	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Benzo(a)pyrene	76.7U	U	ug/kg	115	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Benzo(b)fluoranthene	76.7U	U	ug/kg	115	76.7	27.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Benzo(g,h,i)perylene	76.7U	U	ug/kg	115	76.7	24.1	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Benzo(k)fluoranthene	76.7U	U	ug/kg	115	76.7	21.8	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
4-Bromophenyl-phenylether	76.7U	U	ug/kg	309	76.7	26.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Butylbenzylphthalate	76.7U	U	ug/kg	309	76.7	29.8	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Carbazole	76.7U	U	ug/kg	309	76.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
4-Chloro-3-methylphenol	76.7U	U	ug/kg	309	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356008** Date Collected: 3/18/2015 09:50 Matrix: Solid

Sample ID: **LMSB-8** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	229U	U	ug/kg	309	229	153	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
bis(2-Chloroethoxy)methane	76.7U	U	ug/kg	309	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
bis(2-Chloroethyl)ether	76.7U	U	ug/kg	309	76.7	22.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
bis(2-Chloroisopropyl)ether	76.7U	U	ug/kg	309	76.7	28.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Chloronaphthalene	76.7U	U	ug/kg	309	76.7	16.0	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Chlorophenol	229U	U	ug/kg	309	229	20.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
4-Chlorophenyl-phenylether	76.7U	U	ug/kg	309	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Chrysene	76.7U	U	ug/kg	115	76.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
mp-Cresol	76.7U	U	ug/kg	309	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
o-Cresol	76.7U	U	ug/kg	309	76.7	25.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Di-n-Butylphthalate	76.7U	U	ug/kg	309	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Di-n-Octylphthalate	76.7U	U	ug/kg	309	76.7	44.7	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Dibenzo(a,h)anthracene	76.7U	U	ug/kg	115	76.7	13.7	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Dibenzofuran	76.7U	U	ug/kg	309	76.7	12.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
1,2-Dichlorobenzene	76.7U	U	ug/kg	309	76.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
1,3-Dichlorobenzene	76.7U	U	ug/kg	309	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
1,4-Dichlorobenzene	76.7U	U	ug/kg	309	76.7	19.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
3,3-Dichlorobenzidine	229U	U	ug/kg	619	229	80.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4-Dichlorophenol	76.7U	U	ug/kg	309	76.7	20.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Diethylphthalate	76.7U	U	ug/kg	309	76.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4-Dimethylphenol	153U	U	ug/kg	309	153	88.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Dimethylphthalate	76.7U	U	ug/kg	309	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4-Dinitrophenol	916U	U	ug/kg	619	916	73.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4-Dinitrotoluene	76.7U	U	ug/kg	309	76.7	33.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,6-Dinitrotoluene	76.7U	U	ug/kg	309	76.7	27.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
bis(2-Ethylhexyl)phthalate	229U	U	ug/kg	309	229	26.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Fluoranthene	76.7U	U	ug/kg	115	76.7	21.8	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Fluorene	76.7U	U	ug/kg	115	76.7	22.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Hexachlorobenzene	76.7U	U	ug/kg	309	76.7	21.8	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Hexachlorobutadiene	76.7U	U	ug/kg	309	76.7	29.8	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Hexachlorocyclopentadiene	229U	U	ug/kg	309	229	99.7	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Hexachloroethane	76.7U	U	ug/kg	309	76.7	19.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Indeno(1,2,3-cd)pyrene	76.7U	U	ug/kg	115	76.7	20.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Isophorone	76.7U	U	ug/kg	309	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Methyl-4,6-dinitrophenol	229U	U	ug/kg	309	229	66.4	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Methylnaphthalene	76.7U	U	ug/kg	309	76.7	18.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Naphthalene	76.7U	U	ug/kg	115	76.7	27.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Nitroaniline	229U	U	ug/kg	309	229	149	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356008** Date Collected: 3/18/2015 09:50 Matrix: Solid
Sample ID: **LMSB-8** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	229U	U	ug/kg	309	229	203	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
4-Nitroaniline	229U	U	ug/kg	309	229	160	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Nitrobenzene	76.7U	U	ug/kg	309	76.7	24.1	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Nitrophenol	76.7U	U	ug/kg	309	76.7	30.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
4-Nitrophenol	153U	U	ug/kg	309	153	116	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
N-Nitroso-di-n-propylamine	229U	U	ug/kg	309	229	19.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
N-Nitrosodiphenylamine	76.7U	U	ug/kg	309	76.7	19.5	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Pentachlorophenol	229U	U	ug/kg	619	229	41.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Phenanthrene	76.7U	U	ug/kg	115	76.7	16.0	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Phenol	76.7U	U	ug/kg	309	76.7	17.2	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Pyrene	76.7U	U	ug/kg	115	76.7	20.6	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
1,2,4-Trichlorobenzene	76.7U	U	ug/kg	309	76.7	26.3	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4,5-Trichlorophenol	76.7U	U	ug/kg	309	76.7	22.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2,4,6-Trichlorophenol	76.7U	U	ug/kg	309	76.7	22.9	SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	81.2		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Fluorobiphenyl (S)	76.9		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
2-Fluorophenol (S)	76.4		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Nitrobenzene-d5 (S)	81.4		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Phenol-d5 (S)	79.7		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
Terphenyl-d14 (S)	80.5		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 12:57	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 12:57	DRS	A
WET CHEMISTRY												
Moisture	17.6		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	82.4		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	5790		mg/kg	47.6	31.5	15.5	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Antimony, Total	0.77U	U	mg/kg	1.2	0.77	0.39	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Arsenic, Total	4.1		mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Barium, Total	42.7		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Beryllium, Total	0.37J	J	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Cadmium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Calcium, Total	111		mg/kg	59.5	39.9	9.5	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Chromium, Total	6.2		mg/kg	1.2	0.77	0.39	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Cobalt, Total	6.1		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Copper, Total	6.8		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356008**	Date Collected:	3/18/2015 09:50	Matrix:	Solid
Sample ID:	**LMSB-8**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	12800		mg/kg	29.8	19.6	9.5	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Lead, Total	8.2		mg/kg	1.2	0.77	0.39	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Magnesium, Total	1690		mg/kg	59.5	39.9	6.0	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Manganese, Total	667		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Mercury, Total	0.048J	J	mg/kg	0.12	0.077	0.039	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Nickel, Total	8.7		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Potassium, Total	514		mg/kg	59.5	39.9	7.7	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Selenium, Total	1.1J	J	mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Silver, Total	0.77U	U	mg/kg	1.2	0.77	0.39	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Sodium, Total	12.4J	J	mg/kg	59.5	39.9	6.0	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Thallium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Vanadium, Total	6.0		mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
Zinc, Total	33.6		mg/kg	3.0	2.0	0.95	SW846 6020A	3/23/15	AAM	4/3/15 11:00	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:00	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356009** Date Collected: 3/18/2015 14:08 Matrix: Solid
Sample ID: **LMSB-9** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS												
Acetone	14.9J	J	ug/kg	20.6	10.3	6.6	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Benzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Bromochloromethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Bromodichloromethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Bromoform	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Bromomethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
2-Butanone	10.3U	U	ug/kg	20.6	10.3	5.2	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Carbon Disulfide	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Carbon Tetrachloride	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Chlorobenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Chlorodibromomethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Chloroethane	5.2U	U	ug/kg	10.3	5.2	2.3	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Chloroform	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Chloromethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Cyclohexane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2-Dibromo-3-chloropropane	5.2U	U	ug/kg	10.3	5.2	3.1	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2-Dibromoethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2-Dichlorobenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,3-Dichlorobenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,4-Dichlorobenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Dichlorodifluoromethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,1-Dichloroethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2-Dichloroethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,1-Dichloroethene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
cis-1,2-Dichloroethene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
trans-1,2-Dichloroethene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2-Dichloropropane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
cis-1,3-Dichloropropene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
trans-1,3-Dichloropropene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,4-Dioxane	51.6U	U	ug/kg	155	51.6	30.5	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Ethylbenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Freon 113	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
2-Hexanone	10.3U	U	ug/kg	20.6	10.3	5.2	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Isopropylbenzene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Methyl acetate	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Methyl cyclohexane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356009**	Date Collected:	3/18/2015 14:08	Matrix:	Solid
Sample ID:	**LMSB-9**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
4-Methyl-2-Pentanone(MIBK)	10.3U	U	ug/kg	20.6	10.3	5.2	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Methylene Chloride	34.3	3	ug/kg	4.1	2.1	1.2	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Styrene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,1,2,2-Tetrachloroethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Tetrachloroethene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Toluene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2,3-Trichlorobenzene	2.1U	U	ug/kg	10.3	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,2,4-Trichlorobenzene	2.1U	U	ug/kg	10.3	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,1,1-Trichloroethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
1,1,2-Trichloroethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Trichloroethene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Trichlorofluoromethane	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Vinyl Chloride	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
o-Xylene	2.1U	U	ug/kg	4.1	2.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
mp-Xylene	4.1U	U	ug/kg	8.2	4.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.3		%	56 - 124			SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
4-Bromofluorobenzene (S)	104		%	85 - 120			SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Dibromofluoromethane (S)	95.6		%	62 - 123			SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
Toluene-d8 (S)	101		%	85 - 115			SW846 8260B	3/20/15	TMP	3/30/15 11:12	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 11:12	CPK	C
SEMIVOLATILES												
Acenaphthene	90.7U	U	ug/kg	135	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Acenaphthylene	90.7U	U	ug/kg	135	90.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Anthracene	90.7U	U	ug/kg	135	90.7	13.5	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Benzo(a)anthracene	35.5J	J	ug/kg	135	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Benzo(a)pyrene	90.7U	U	ug/kg	135	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Benzo(b)fluoranthene	44.4J	J	ug/kg	135	90.7	32.5	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Benzo(g,h,i)perylene	90.7U	U	ug/kg	135	90.7	28.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Benzo(k)fluoranthene	90.7U	U	ug/kg	135	90.7	25.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
4-Bromophenyl-phenylether	90.7U	U	ug/kg	366	90.7	31.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Butylbenzylphthalate	90.7U	U	ug/kg	366	90.7	35.2	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Carbazole	90.7U	U	ug/kg	366	90.7	17.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
4-Chloro-3-methylphenol	90.7U	U	ug/kg	366	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356009**	Date Collected:	3/18/2015 14:08	Matrix:	Solid
Sample ID:	**LMSB-9**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	271U	U	ug/kg	366	271	181	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
bis(2-Chloroethoxy)methane	90.7U	U	ug/kg	366	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
bis(2-Chloroethyl)ether	90.7U	U	ug/kg	366	90.7	27.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
bis(2-Chloroisopropyl)ether	90.7U	U	ug/kg	366	90.7	33.8	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Chloronaphthalene	90.7U	U	ug/kg	366	90.7	19.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Chlorophenol	271U	U	ug/kg	366	271	24.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
4-Chlorophenyl-phenylether	90.7U	U	ug/kg	366	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Chrysene	90.7U	U	ug/kg	135	90.7	17.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
mp-Cresol	90.7U	U	ug/kg	366	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
o-Cresol	90.7U	U	ug/kg	366	90.7	29.8	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Di-n-Butylphthalate	90.7U	U	ug/kg	366	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Di-n-Octylphthalate	90.7U	U	ug/kg	366	90.7	52.8	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Dibenzo(a,h)anthracene	90.7U	U	ug/kg	135	90.7	16.2	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Dibenzofuran	90.7U	U	ug/kg	366	90.7	14.9	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
1,2-Dichlorobenzene	90.7U	U	ug/kg	366	90.7	17.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
1,3-Dichlorobenzene	90.7U	U	ug/kg	366	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
1,4-Dichlorobenzene	90.7U	U	ug/kg	366	90.7	23.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
3,3-Dichlorobenzidine	271U	U	ug/kg	731	271	94.8	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4-Dichlorophenol	90.7U	U	ug/kg	366	90.7	24.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Diethylphthalate	90.7U	U	ug/kg	366	90.7	17.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4-Dimethylphenol	181U	U	ug/kg	366	181	104	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Dimethylphthalate	90.7U	U	ug/kg	366	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4-Dinitrophenol	1080U	U	ug/kg	731	1080	86.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4-Dinitrotoluene	90.7U	U	ug/kg	366	90.7	39.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,6-Dinitrotoluene	90.7U	U	ug/kg	366	90.7	32.5	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
bis(2-Ethylhexyl)phthalate	271U	U	ug/kg	366	271	31.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Fluoranthene	69.7J	J	ug/kg	135	90.7	25.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Fluorene	90.7U	U	ug/kg	135	90.7	27.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Hexachlorobenzene	90.7U	U	ug/kg	366	90.7	25.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Hexachlorobutadiene	90.7U	U	ug/kg	366	90.7	35.2	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Hexachlorocyclopentadiene	271U	U	ug/kg	366	271	118	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Hexachloroethane	90.7U	U	ug/kg	366	90.7	23.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Indeno(1,2,3-cd)pyrene	90.7U	U	ug/kg	135	90.7	24.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Isophorone	90.7U	U	ug/kg	366	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Methyl-4,6-dinitrophenol	271U	U	ug/kg	366	271	78.5	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Methylnaphthalene	90.7U	U	ug/kg	366	90.7	21.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Naphthalene	90.7U	U	ug/kg	135	90.7	32.5	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Nitroaniline	271U	U	ug/kg	366	271	176	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356009**	Date Collected:	3/18/2015 14:08	Matrix:	Solid
Sample ID:	**LMSB-9**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
3-Nitroaniline	271U	U	ug/kg	366	271	240	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
4-Nitroaniline	271U	U	ug/kg	366	271	190	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Nitrobenzene	90.7U	U	ug/kg	366	90.7	28.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Nitrophenol	90.7U	U	ug/kg	366	90.7	36.6	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
4-Nitrophenol	181U	U	ug/kg	366	181	137	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
N-Nitroso-di-n-propylamine	271U	U	ug/kg	366	271	23.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
N-Nitrosodiphenylamine	90.7U	U	ug/kg	366	90.7	23.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Pentachlorophenol	271U	U	ug/kg	731	271	48.7	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Phenanthrene	44.2J	J	ug/kg	135	90.7	19.0	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Phenol	90.7U	U	ug/kg	366	90.7	20.3	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Pyrene	57.6J	J	ug/kg	135	90.7	24.4	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
1,2,4-Trichlorobenzene	90.7U	U	ug/kg	366	90.7	31.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4,5-Trichlorophenol	90.7U	U	ug/kg	366	90.7	27.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2,4,6-Trichlorophenol	90.7U	U	ug/kg	366	90.7	27.1	SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	39.6		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Fluorobiphenyl (S)	40.3	2	%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
2-Fluorophenol (S)	40.1		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Nitrobenzene-d5 (S)	44.5		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Phenol-d5 (S)	38.8	1	%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
Terphenyl-d14 (S)	37.3		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 13:22	GEC	A
WET CHEMISTRY												
Moisture	28.1		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	71.9		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	5960		mg/kg	51.5	34.1	16.7	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Antimony, Total	0.84U	U	mg/kg	1.3	0.84	0.42	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Arsenic, Total	6.3		mg/kg	1.9	1.3	0.64	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Barium, Total	142		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Beryllium, Total	0.52J	J	mg/kg	0.64	0.43	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Cadmium, Total	0.37J	J	mg/kg	0.64	0.43	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Calcium, Total	556		mg/kg	64.4	43.1	10.3	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Chromium, Total	6.4		mg/kg	1.3	0.84	0.42	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Cobalt, Total	7.2		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Copper, Total	13.8		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Iron, Total	13000		mg/kg	32.2	21.2	10.3	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Lead, Total	29.7		mg/kg	1.3	0.84	0.42	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356009** Date Collected: 3/18/2015 14:08 Matrix: Solid

Sample ID: **LMSB-9** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Magnesium, Total	1890		mg/kg	64.4	43.1	6.4	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Manganese, Total	1310		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Mercury, Total	0.11J	J	mg/kg	0.13	0.084	0.042	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Nickel, Total	9.5		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Potassium, Total	558		mg/kg	64.4	43.1	8.4	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Selenium, Total	1.4J	J	mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Silver, Total	0.84U	U	mg/kg	1.3	0.84	0.42	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Sodium, Total	15.2J	J	mg/kg	64.4	43.1	6.4	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Thallium, Total	0.43U	U	mg/kg	0.64	0.43	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Vanadium, Total	7.3		mg/kg	1.9	1.3	0.64	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
Zinc, Total	51.6		mg/kg	3.2	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:04	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:01	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356010**
Sample ID: **LMSB-10**
Date Collected: 3/18/2015 14:30
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	10.1U	U	ug/kg	20.3	10.1	6.5	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Benzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Bromochloromethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Bromodichloromethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Bromoform	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Bromomethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
2-Butanone	10.1U	U	ug/kg	20.3	10.1	5.1	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Carbon Disulfide	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Carbon Tetrachloride	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Chlorobenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Chlorodibromomethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Chloroethane	5.1U	U	ug/kg	10.1	5.1	2.2	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Chloroform	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Chloromethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Cyclohexane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2-Dibromo-3-chloropropane	5.1U	U	ug/kg	10.1	5.1	3.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2-Dibromoethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2-Dichlorobenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,3-Dichlorobenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,4-Dichlorobenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Dichlorodifluoromethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,1-Dichloroethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2-Dichloroethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,1-Dichloroethene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
cis-1,2-Dichloroethene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
trans-1,2-Dichloroethene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2-Dichloropropane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
cis-1,3-Dichloropropene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
trans-1,3-Dichloropropene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,4-Dioxane	50.7U	U	ug/kg	152	50.7	30.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Ethylbenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Freon 113	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
2-Hexanone	10.1U	U	ug/kg	20.3	10.1	5.1	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Isopropylbenzene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Methyl acetate	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Methyl cyclohexane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356010**	Date Collected:	3/18/2015 14:30	Matrix:	Solid
Sample ID:	**LMSB-10**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
4-Methyl-2-Pentanone(MIBK)	10.1U	U	ug/kg	20.3	10.1	5.1	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Methylene Chloride	31.0	1	ug/kg	4.1	2.0	1.2	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Styrene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,1,2,2-Tetrachloroethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Tetrachloroethene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Toluene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2,3-Trichlorobenzene	2.0U	U	ug/kg	10.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,2,4-Trichlorobenzene	2.0U	U	ug/kg	10.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,1,1-Trichloroethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
1,1,2-Trichloroethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Trichloroethene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Trichlorofluoromethane	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Vinyl Chloride	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
o-Xylene	2.0U	U	ug/kg	4.1	2.0	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
mp-Xylene	4.1U	U	ug/kg	8.1	4.1	1.0	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.8		%	56 - 124	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
4-Bromofluorobenzene (S)	104		%	85 - 120	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Dibromofluoromethane (S)	94.1		%	62 - 123	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E
Toluene-d8 (S)	101		%	85 - 115	SW846 8260B	3/20/15	TMP	3/30/15 11:36	JPA	E

LIBRARY SEARCH - VOLATILES

No TIC's Detected	.						Lib Search VOC			3/30/15 11:36	CPK	C

SEMIVOLATILES

Acenaphthene	83.9U	U	ug/kg	125	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Acenaphthylene	83.9U	U	ug/kg	125	83.9	13.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Anthracene	83.9U	U	ug/kg	125	83.9	12.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Benzo(a)anthracene	83.9U	U	ug/kg	125	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Benzo(a)pyrene	83.9U	U	ug/kg	125	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Benzo(b)fluoranthene	83.9U	U	ug/kg	125	83.9	30.1	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Benzo(g,h,i)perylene	83.9U	U	ug/kg	125	83.9	26.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Benzo(k)fluoranthene	83.9U	U	ug/kg	125	83.9	23.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
4-Bromophenyl-phenylether	83.9U	U	ug/kg	338	83.9	28.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Butylbenzylphthalate	83.9U	U	ug/kg	338	83.9	32.6	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Carbazole	83.9U	U	ug/kg	338	83.9	16.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
4-Chloro-3-methylphenol	83.9U	U	ug/kg	338	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356010**
Sample ID: **LMSB-10**

Date Collected: 3/18/2015 14:30
Date Received: 3/19/2015 16:52

Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	250U	U	ug/kg	338	250	168	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
bis(2-Chloroethoxy)methane	83.9U	U	ug/kg	338	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
bis(2-Chloroethyl)ether	83.9U	U	ug/kg	338	83.9	25.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
bis(2-Chloroisopropyl)ether	83.9U	U	ug/kg	338	83.9	31.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Chloronaphthalene	83.9U	U	ug/kg	338	83.9	17.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Chlorophenol	250U	U	ug/kg	338	250	22.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
4-Chlorophenyl-phenylether	83.9U	U	ug/kg	338	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Chrysene	83.9U	U	ug/kg	125	83.9	16.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
mp-Cresol	83.9U	U	ug/kg	338	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
o-Cresol	83.9U	U	ug/kg	338	83.9	27.6	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Di-n-Butylphthalate	83.9U	U	ug/kg	338	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Di-n-Octylphthalate	83.9U	U	ug/kg	338	83.9	48.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Dibenzo(a,h)anthracene	83.9U	U	ug/kg	125	83.9	15.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Dibenzofuran	83.9U	U	ug/kg	338	83.9	13.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
1,2-Dichlorobenzene	83.9U	U	ug/kg	338	83.9	16.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
1,3-Dichlorobenzene	83.9U	U	ug/kg	338	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
1,4-Dichlorobenzene	83.9U	U	ug/kg	338	83.9	21.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
3,3-Dichlorobenzidine	250U	U	ug/kg	676	250	87.7	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4-Dichlorophenol	83.9U	U	ug/kg	338	83.9	22.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Diethylphthalate	83.9U	U	ug/kg	338	83.9	16.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4-Dimethylphenol	168U	U	ug/kg	338	168	96.4	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Dimethylphthalate	83.9U	U	ug/kg	338	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4-Dinitrophenol	1000U	U	ug/kg	676	1000	80.2	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4-Dinitrotoluene	83.9U	U	ug/kg	338	83.9	36.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,6-Dinitrotoluene	83.9U	U	ug/kg	338	83.9	30.1	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
bis(2-Ethylhexyl)phthalate	250U	U	ug/kg	338	250	28.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Fluoranthene	83.9U	U	ug/kg	125	83.9	23.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Fluorene	83.9U	U	ug/kg	125	83.9	25.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Hexachlorobenzene	83.9U	U	ug/kg	338	83.9	23.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Hexachlorobutadiene	83.9U	U	ug/kg	338	83.9	32.6	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Hexachlorocyclopentadiene	250U	U	ug/kg	338	250	109	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Hexachloroethane	83.9U	U	ug/kg	338	83.9	21.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Indeno(1,2,3-cd)pyrene	83.9U	U	ug/kg	125	83.9	22.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Isophorone	83.9U	U	ug/kg	338	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Methyl-4,6-dinitrophenol	250U	U	ug/kg	338	250	72.6	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Methylnaphthalene	83.9U	U	ug/kg	338	83.9	20.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Naphthalene	83.9U	U	ug/kg	125	83.9	30.1	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Nitroaniline	250U	U	ug/kg	338	250	163	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356010** Date Collected: 3/18/2015 14:30 Matrix: Solid
Sample ID: **LMSB-10** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	250U	U	ug/kg	338	250	222	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
4-Nitroaniline	250U	U	ug/kg	338	250	175	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Nitrobenzene	83.9U	U	ug/kg	338	83.9	26.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Nitrophenol	83.9U	U	ug/kg	338	83.9	33.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
4-Nitrophenol	168U	U	ug/kg	338	168	127	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
N-Nitroso-di-n-propylamine	250U	U	ug/kg	338	250	21.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
N-Nitrosodiphenylamine	83.9U	U	ug/kg	338	83.9	21.3	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Pentachlorophenol	250U	U	ug/kg	676	250	45.1	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Phenanthrene	83.9U	U	ug/kg	125	83.9	17.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Phenol	83.9U	U	ug/kg	338	83.9	18.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Pyrene	83.9U	U	ug/kg	125	83.9	22.5	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
1,2,4-Trichlorobenzene	83.9U	U	ug/kg	338	83.9	28.8	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4,5-Trichlorophenol	83.9U	U	ug/kg	338	83.9	25.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2,4,6-Trichlorophenol	83.9U	U	ug/kg	338	83.9	25.0	SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	71.9		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Fluorobiphenyl (S)	67		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
2-Fluorophenol (S)	65.7		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Nitrobenzene-d5 (S)	70.1		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Phenol-d5 (S)	67.5		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
Terphenyl-d14 (S)	69.2		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 13:48	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 13:48	DRS	A
WET CHEMISTRY												
Moisture	22.7		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	77.3		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	3970		mg/kg	49.8	33.0	16.2	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Antimony, Total	0.81U	U	mg/kg	1.2	0.81	0.41	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Arsenic, Total	2.6		mg/kg	1.9	1.2	0.62	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Barium, Total	61.3		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Beryllium, Total	0.35J	J	mg/kg	0.62	0.42	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Cadmium, Total	0.42U	U	mg/kg	0.62	0.42	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Calcium, Total	202		mg/kg	62.2	41.7	10	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Chromium, Total	3.7		mg/kg	1.2	0.81	0.41	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Cobalt, Total	5.0		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Copper, Total	5.1		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356010**	Date Collected:	3/18/2015 14:30	Matrix:	Solid
Sample ID:	**LMSB-10**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	7510		mg/kg	31.1	20.5	10	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Lead, Total	6.6		mg/kg	1.2	0.81	0.41	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Magnesium, Total	1230		mg/kg	62.2	41.7	6.2	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Manganese, Total	670		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Mercury, Total	0.081U	U	mg/kg	0.12	0.081	0.041	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Nickel, Total	5.6		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Potassium, Total	343		mg/kg	62.2	41.7	8.1	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Selenium, Total	2.1U	U	mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Silver, Total	0.81U	U	mg/kg	1.2	0.81	0.41	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Sodium, Total	10.9J	J	mg/kg	62.2	41.7	6.2	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Thallium, Total	0.42U	U	mg/kg	0.62	0.42	0.21	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Vanadium, Total	3.8		mg/kg	1.9	1.2	0.62	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
Zinc, Total	22.7		mg/kg	3.1	2.1	1.0	SW846 6020A	3/23/15	AAM	4/3/15 11:07	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:01	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356011** Date Collected: 3/18/2015 15:00 Matrix: Solid

Sample ID: **LMSB-11** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	7.6U	U	ug/kg	15.2	7.6	4.9	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Benzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Bromochloromethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Bromodichloromethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Bromoform	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Bromomethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
2-Butanone	7.6U	U	ug/kg	15.2	7.6	3.8	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Carbon Disulfide	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Carbon Tetrachloride	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Chlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Chlorodibromomethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Chloroethane	3.8U	U	ug/kg	7.6	3.8	1.7	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Chloroform	1.2J	J	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Chloromethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Cyclohexane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2-Dibromo-3-chloropropane	3.8U	U	ug/kg	7.6	3.8	2.3	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2-Dibromoethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,3-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,4-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Dichlorodifluoromethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,1-Dichloroethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2-Dichloroethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,1-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
cis-1,2-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
trans-1,2-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2-Dichloropropane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
cis-1,3-Dichloropropene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
trans-1,3-Dichloropropene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,4-Dioxane	38.1U	U	ug/kg	114	38.1	22.5	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Ethylbenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Freon 113	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
2-Hexanone	7.6U	U	ug/kg	15.2	7.6	3.8	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Isopropylbenzene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Methyl acetate	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Methyl cyclohexane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356011**	Date Collected:	3/18/2015 15:00	Matrix:	Solid
Sample ID:	**LMSB-11**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
4-Methyl-2-Pentanone(MIBK)	7.6U	U	ug/kg	15.2	7.6	3.8	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Methylene Chloride	22.9	1	ug/kg	3.0	1.5	0.91	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Styrene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,1,2,2-Tetrachloroethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Tetrachloroethene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Toluene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2,3-Trichlorobenzene	1.5U	U	ug/kg	7.6	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,2,4-Trichlorobenzene	1.5U	U	ug/kg	7.6	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,1,1-Trichloroethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
1,1,2-Trichloroethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Trichloroethene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Trichlorofluoromethane	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Vinyl Chloride	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
o-Xylene	1.5U	U	ug/kg	3.0	1.5	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
mp-Xylene	3.0U	U	ug/kg	6.1	3.0	0.76	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.5		%	56 - 124	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
4-Bromofluorobenzene (S)	109		%	85 - 120	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Dibromofluoromethane (S)	97.1		%	62 - 123	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E
Toluene-d8 (S)	102		%	85 - 115	SW846 8260B	3/20/15	TMP	3/30/15 11:59	JPA	E

LIBRARY SEARCH - VOLATILES

No TIC's Detected	.						Lib Search VOC			3/30/15 11:59	CPK	C

SEMIVOLATILES

Acenaphthene	312U	U	ug/kg	466	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Acenaphthylene	312U	U	ug/kg	466	312	51.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Anthracene	312U	U	ug/kg	466	312	46.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Benzo(a)anthracene	130J	J	ug/kg	466	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Benzo(a)pyrene	223J	J	ug/kg	466	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Benzo(b)fluoranthene	180J	J	ug/kg	466	312	112	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Benzo(g,h,i)perylene	948		ug/kg	466	312	97.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Benzo(k)fluoranthene	312U	U	ug/kg	466	312	88.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
4-Bromophenyl-phenylether	312U	U	ug/kg	1260	312	107	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Butylbenzylphthalate	312U	U	ug/kg	1260	312	121	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Carbazole	312U	U	ug/kg	1260	312	60.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
4-Chloro-3-methylphenol	312U	U	ug/kg	1260	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356011**	Date Collected:	3/18/2015 15:00	Matrix:	Solid
Sample ID:	**LMSB-11**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	932U	U	ug/kg	1260	932	625	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
bis(2-Chloroethoxy)methane	312U	U	ug/kg	1260	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
bis(2-Chloroethyl)ether	312U	U	ug/kg	1260	312	93.2	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
bis(2-Chloroisopropyl)ether	312U	U	ug/kg	1260	312	117	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Chloronaphthalene	312U	U	ug/kg	1260	312	65.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Chlorophenol	932U	U	ug/kg	1260	932	83.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
4-Chlorophenyl-phenylether	312U	U	ug/kg	1260	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Chrysene	312U	U	ug/kg	466	312	60.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
mp-Cresol	312U	U	ug/kg	1260	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
o-Cresol	312U	U	ug/kg	1260	312	103	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Di-n-Butylphthalate	312U	U	ug/kg	1260	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Di-n-Octylphthalate	312U	U	ug/kg	1260	312	182	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Dibenzo(a,h)anthracene	312U	U	ug/kg	466	312	55.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Dibenzofuran	312U	U	ug/kg	1260	312	51.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
1,2-Dichlorobenzene	312U	U	ug/kg	1260	312	60.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
1,3-Dichlorobenzene	312U	U	ug/kg	1260	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
1,4-Dichlorobenzene	312U	U	ug/kg	1260	312	79.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
3,3-Dichlorobenzidine	932U	U	ug/kg	2520	932	326	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4-Dichlorophenol	312U	U	ug/kg	1260	312	83.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Diethylphthalate	312U	U	ug/kg	1260	312	60.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4-Dimethylphenol	625U	U	ug/kg	1260	625	359	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Dimethylphthalate	312U	U	ug/kg	1260	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4-Dinitrophenol	3730U	U	ug/kg	2520	3730	298	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4-Dinitrotoluene	312U	U	ug/kg	1260	312	135	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,6-Dinitrotoluene	312U	U	ug/kg	1260	312	112	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
bis(2-Ethylhexyl)phthalate	932U	U	ug/kg	1260	932	107	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Fluoranthene	312U	U	ug/kg	466	312	88.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Fluorene	312U	U	ug/kg	466	312	93.2	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Hexachlorobenzene	312U	U	ug/kg	1260	312	88.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Hexachlorobutadiene	312U	U	ug/kg	1260	312	121	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Hexachlorocyclopentadiene	932U	U	ug/kg	1260	932	406	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Hexachloroethane	312U	U	ug/kg	1260	312	79.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Indeno(1,2,3-cd)pyrene	241J	J	ug/kg	466	312	83.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Isophorone	312U	U	ug/kg	1260	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Methyl-4,6-dinitrophenol	932U	U	ug/kg	1260	932	270	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Methylnaphthalene	312U	U	ug/kg	1260	312	74.6	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Naphthalene	312U	U	ug/kg	466	312	112	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Nitroaniline	932U	U	ug/kg	1260	932	606	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356011** Date Collected: 3/18/2015 15:00 Matrix: Solid

Sample ID: **LMSB-11** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	932U	U	ug/kg	1260	932	825	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
4-Nitroaniline	932U	U	ug/kg	1260	932	653	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Nitrobenzene	312U	U	ug/kg	1260	312	97.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Nitrophenol	312U	U	ug/kg	1260	312	126	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
4-Nitrophenol	625U	U	ug/kg	1260	625	471	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
N-Nitroso-di-n-propylamine	932U	U	ug/kg	1260	932	79.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
N-Nitrosodiphenylamine	312U	U	ug/kg	1260	312	79.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Pentachlorophenol	932U	U	ug/kg	2520	932	168	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Phenanthrene	312U	U	ug/kg	466	312	65.3	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Phenol	312U	U	ug/kg	1260	312	69.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Pyrene	157J	J	ug/kg	466	312	83.9	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
1,2,4-Trichlorobenzene	312U	U	ug/kg	1260	312	107	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4,5-Trichlorophenol	312U	U	ug/kg	1260	312	93.2	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2,4,6-Trichlorophenol	312U	U	ug/kg	1260	312	93.2	SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	67.2		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Fluorobiphenyl (S)	66.7		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
2-Fluorophenol (S)	59.3		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Nitrobenzene-d5 (S)	67.5		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Phenol-d5 (S)	64.2		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
Terphenyl-d14 (S)	67.3		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 16:48	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 16:45	DRS	A
WET CHEMISTRY												
Moisture	16.4		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	83.6		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	3280		mg/kg	41.3	27.3	13.4	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Antimony, Total	1.8		mg/kg	1.0	0.67	0.34	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Arsenic, Total	6.7		mg/kg	1.5	1.0	0.52	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Barium, Total	180		mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Beryllium, Total	0.23J	J	mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Cadmium, Total	0.64		mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Calcium, Total	3450		mg/kg	51.6	34.6	8.3	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Chromium, Total	6.6		mg/kg	1.0	0.67	0.34	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Cobalt, Total	3.7		mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Copper, Total	34.3		mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356011**	Date Collected:	3/18/2015 15:00	Matrix:	Solid
Sample ID:	**LMSB-11**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	8210		mg/kg	25.8	17.0	8.3	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Lead, Total	156		mg/kg	5.2	3.4	1.7	SW846 6020A	3/23/15	AAM	4/3/15 11:41	MO	A1
Magnesium, Total	1340		mg/kg	51.6	34.6	5.2	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Manganese, Total	377		mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Mercury, Total	0.074J	J	mg/kg	0.10	0.067	0.034	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Nickel, Total	8.2		mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Potassium, Total	485		mg/kg	51.6	34.6	6.7	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Selenium, Total	1.7U	U	mg/kg	2.6	1.7	0.83	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Silver, Total	0.67U	U	mg/kg	1.0	0.67	0.34	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Sodium, Total	22.4J	J	mg/kg	51.6	34.6	5.2	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Thallium, Total	0.35U	U	mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Vanadium, Total	8.4		mg/kg	1.5	1.0	0.52	SW846 6020A	3/23/15	AAM	4/3/15 11:11	MO	A1
Zinc, Total	312		mg/kg	12.9	8.5	4.1	SW846 6020A	3/23/15	AAM	4/3/15 11:41	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:01	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356012**
Sample ID: **LMSB-12**
Date Collected: 3/18/2015 15:30
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	7.5U	U	ug/kg	15.0	7.5	4.8	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Benzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Bromochloromethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Bromodichloromethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Bromoform	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Bromomethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
2-Butanone	7.5U	U	ug/kg	15.0	7.5	3.8	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Carbon Disulfide	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Carbon Tetrachloride	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Chlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Chlorodibromomethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Chloroethane	3.8U	U	ug/kg	7.5	3.8	1.7	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Chloroform	1.3J	J	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Chloromethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Cyclohexane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2-Dibromo-3-chloropropane	3.8U	U	ug/kg	7.5	3.8	2.3	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2-Dibromoethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,3-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,4-Dichlorobenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Dichlorodifluoromethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,1-Dichloroethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2-Dichloroethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,1-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
cis-1,2-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
trans-1,2-Dichloroethene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2-Dichloropropane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
cis-1,3-Dichloropropene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
trans-1,3-Dichloropropene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,4-Dioxane	37.6U	U	ug/kg	113	37.6	22.3	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Ethylbenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Freon 113	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
2-Hexanone	7.5U	U	ug/kg	15.0	7.5	3.8	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Isopropylbenzene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Methyl acetate	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Methyl cyclohexane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356012**	Date Collected:	3/18/2015 15:30	Matrix:	Solid
Sample ID:	**LMSB-12**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
4-Methyl-2-Pentanone(MIBK)	7.5U	U	ug/kg	15.0	7.5	3.8	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Methylene Chloride	12.8	1	ug/kg	3.0	1.5	0.90	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Styrene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,1,2,2-Tetrachloroethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Tetrachloroethene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Toluene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2,3-Trichlorobenzene	1.5U	U	ug/kg	7.5	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,2,4-Trichlorobenzene	1.5U	U	ug/kg	7.5	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,1,1-Trichloroethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
1,1,2-Trichloroethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Trichloroethene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Trichlorofluoromethane	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Vinyl Chloride	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
o-Xylene	1.5U	U	ug/kg	3.0	1.5	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
mp-Xylene	3.0U	U	ug/kg	6.0	3.0	0.75	SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.5		%	56 - 124			SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
4-Bromofluorobenzene (S)	104		%	85 - 120			SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Dibromofluoromethane (S)	95.7		%	62 - 123			SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
Toluene-d8 (S)	101		%	85 - 115			SW846 8260B	3/20/15	TMP	3/30/15 12:37	JPA	E
LIBRARY SEARCH - VOLATILES												
No TIC's Detected	.						Lib Search VOC			3/30/15 12:37	CPK	C
SEMIVOLATILES												
Acenaphthene	77.6U	U	ug/kg	116	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Acenaphthylene	64.6J	J	ug/kg	116	77.6	12.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Anthracene	24.9J	J	ug/kg	116	77.6	11.6	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Benzo(a)anthracene	128		ug/kg	116	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Benzo(a)pyrene	220		ug/kg	116	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Benzo(b)fluoranthene	251		ug/kg	116	77.6	27.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Benzo(g,h,i)perylene	187		ug/kg	116	77.6	24.3	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Benzo(k)fluoranthene	93.4J	J	ug/kg	116	77.6	22.0	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
4-Bromophenyl-phenylether	77.6U	U	ug/kg	313	77.6	26.6	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Butylbenzylphthalate	77.6U	U	ug/kg	313	77.6	30.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Carbazole	77.6U	U	ug/kg	313	77.6	15.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
4-Chloro-3-methylphenol	77.6U	U	ug/kg	313	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356012**	Date Collected:	3/18/2015 15:30	Matrix:	Solid
Sample ID:	**LMSB-12**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	232U	U	ug/kg	313	232	155	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
bis(2-Chloroethoxy)methane	77.6U	U	ug/kg	313	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
bis(2-Chloroethyl)ether	77.6U	U	ug/kg	313	77.6	23.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
bis(2-Chloroisopropyl)ether	77.6U	U	ug/kg	313	77.6	29.0	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Chloronaphthalene	77.6U	U	ug/kg	313	77.6	16.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Chlorophenol	232U	U	ug/kg	313	232	20.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
4-Chlorophenyl-phenylether	77.6U	U	ug/kg	313	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Chrysene	118		ug/kg	116	77.6	15.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
mp-Cresol	77.6U	U	ug/kg	313	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
o-Cresol	77.6U	U	ug/kg	313	77.6	25.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Di-n-Butylphthalate	77.6U	U	ug/kg	313	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Di-n-Octylphthalate	77.6U	U	ug/kg	313	77.6	45.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Dibenzo(a,h)anthracene	42.3J	J	ug/kg	116	77.6	13.9	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Dibenzofuran	77.6U	U	ug/kg	313	77.6	12.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
1,2-Dichlorobenzene	77.6U	U	ug/kg	313	77.6	15.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
1,3-Dichlorobenzene	77.6U	U	ug/kg	313	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
1,4-Dichlorobenzene	77.6U	U	ug/kg	313	77.6	19.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
3,3-Dichlorobenzidine	232U	U	ug/kg	625	232	81.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4-Dichlorophenol	77.6U	U	ug/kg	313	77.6	20.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Diethylphthalate	77.6U	U	ug/kg	313	77.6	15.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4-Dimethylphenol	155U	U	ug/kg	313	155	89.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Dimethylphthalate	77.6U	U	ug/kg	313	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4-Dinitrophenol	927U	U	ug/kg	625	927	74.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4-Dinitrotoluene	77.6U	U	ug/kg	313	77.6	33.6	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,6-Dinitrotoluene	77.6U	U	ug/kg	313	77.6	27.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
bis(2-Ethylhexyl)phthalate	232U	U	ug/kg	313	232	26.6	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Fluoranthene	102J	J	ug/kg	116	77.6	22.0	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Fluorene	77.6U	U	ug/kg	116	77.6	23.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Hexachlorobenzene	77.6U	U	ug/kg	313	77.6	22.0	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Hexachlorobutadiene	77.6U	U	ug/kg	313	77.6	30.1	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Hexachlorocyclopentadiene	232U	U	ug/kg	313	232	101	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Hexachloroethane	77.6U	U	ug/kg	313	77.6	19.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Indeno(1,2,3-cd)pyrene	189		ug/kg	116	77.6	20.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Isophorone	77.6U	U	ug/kg	313	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Methyl-4,6-dinitrophenol	232U	U	ug/kg	313	232	67.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Methylnaphthalene	77.6U	U	ug/kg	313	77.6	18.5	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Naphthalene	77.6U	U	ug/kg	116	77.6	27.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Nitroaniline	232U	U	ug/kg	313	232	151	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356012** Date Collected: 3/18/2015 15:30 Matrix: Solid
Sample ID: **LMSB-12** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	232U	U	ug/kg	313	232	205	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
4-Nitroaniline	232U	U	ug/kg	313	232	162	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Nitrobenzene	77.6U	U	ug/kg	313	77.6	24.3	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Nitrophenol	77.6U	U	ug/kg	313	77.6	31.3	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
4-Nitrophenol	155U	U	ug/kg	313	155	117	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
N-Nitroso-di-n-propylamine	232U	U	ug/kg	313	232	19.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
N-Nitrosodiphenylamine	77.6U	U	ug/kg	313	77.6	19.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Pentachlorophenol	232U	U	ug/kg	625	232	41.7	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Phenanthrene	77.6U	U	ug/kg	116	77.6	16.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Phenol	77.6U	U	ug/kg	313	77.6	17.4	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Pyrene	127		ug/kg	116	77.6	20.8	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
1,2,4-Trichlorobenzene	77.6U	U	ug/kg	313	77.6	26.6	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4,5-Trichlorophenol	77.6U	U	ug/kg	313	77.6	23.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2,4,6-Trichlorophenol	77.6U	U	ug/kg	313	77.6	23.2	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	75.9		%	35 - 125	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Fluorobiphenyl (S)	72.4		%	45 - 105	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
2-Fluorophenol (S)	69.6		%	35 - 105	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Nitrobenzene-d5 (S)	75.3		%	35 - 100	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Phenol-d5 (S)	74		%	40 - 100	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A
Terphenyl-d14 (S)	73.7		%	30 - 125	SW846 8270D	3/27/15	BS	3/28/15 14:14	GEC	A

WET CHEMISTRY

Moisture	14.8		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	85.2		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A

METALS

Aluminum, Total	4930		mg/kg	41.9	27.8	13.6	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Antimony, Total	0.68U	U	mg/kg	1.0	0.68	0.35	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Arsenic, Total	4.0		mg/kg	1.6	1.0	0.52	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Barium, Total	40.9		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Beryllium, Total	0.28J	J	mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Cadmium, Total	0.35U	U	mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Calcium, Total	268		mg/kg	52.4	35.1	8.4	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Chromium, Total	5.1		mg/kg	1.0	0.68	0.35	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Cobalt, Total	4.9		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Copper, Total	6.1		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Iron, Total	10700		mg/kg	26.2	17.3	8.4	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Lead, Total	7.9		mg/kg	1.0	0.68	0.35	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356012**	Date Collected:	3/18/2015 15:30	Matrix:	Solid
Sample ID:	**LMSB-12**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Magnesium, Total	1630		mg/kg	52.4	35.1	5.2	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Manganese, Total	615		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Mercury, Total	0.050J	J	mg/kg	0.10	0.068	0.035	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Nickel, Total	8.6		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Potassium, Total	442		mg/kg	52.4	35.1	6.8	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Selenium, Total	1.7U	U	mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Silver, Total	0.68U	U	mg/kg	1.0	0.68	0.35	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Sodium, Total	8.2J	J	mg/kg	52.4	35.1	5.2	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Thallium, Total	0.35U	U	mg/kg	0.52	0.35	0.17	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Vanadium, Total	4.9		mg/kg	1.6	1.0	0.52	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
Zinc, Total	29.6		mg/kg	2.6	1.7	0.84	SW846 6020A	3/23/15	AAM	4/3/15 11:15	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:02	SUB	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356013**	Date Collected:	3/18/2015 13:41	Matrix:	Solid
Sample ID:	**LMSB-13**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS												
Acetone	5.6J	J	ug/kg	8.6	4.3	2.8	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Benzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Bromochloromethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Bromodichloromethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Bromoform	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Bromomethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
2-Butanone	4.3U	U	ug/kg	8.6	4.3	2.2	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Carbon Disulfide	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Carbon Tetrachloride	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Chlorobenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Chlorodibromomethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Chloroethane	2.2U	U	ug/kg	4.3	2.2	0.95	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Chloroform	0.59J	J	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Chloromethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Cyclohexane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2-Dibromo-3-chloropropane	2.2U	U	ug/kg	4.3	2.2	1.3	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2-Dibromoethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2-Dichlorobenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,3-Dichlorobenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,4-Dichlorobenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Dichlorodifluoromethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,1-Dichloroethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2-Dichloroethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,1-Dichloroethene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
cis-1,2-Dichloroethene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
trans-1,2-Dichloroethene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2-Dichloropropane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
cis-1,3-Dichloropropene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
trans-1,3-Dichloropropene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,4-Dioxane	21.6U	U	ug/kg	64.7	21.6	12.8	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Ethylbenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Freon 113	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
2-Hexanone	4.3U	U	ug/kg	8.6	4.3	2.2	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Isopropylbenzene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Methyl acetate	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Methyl cyclohexane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356013**	Date Collected:	3/18/2015 13:41	Matrix:	Solid
Sample ID:	**LMSB-13**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
4-Methyl-2-Pentanone(MIBK)	4.3U	U	ug/kg	8.6	4.3	2.2	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Methylene Chloride	10.2	1	ug/kg	1.7	0.86	0.52	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Styrene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,1,2,2-Tetrachloroethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Tetrachloroethene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Toluene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2,3-Trichlorobenzene	0.86U	U	ug/kg	4.3	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,2,4-Trichlorobenzene	0.86U	U	ug/kg	4.3	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,1,1-Trichloroethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
1,1,2-Trichloroethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Trichloroethene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Trichlorofluoromethane	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Vinyl Chloride	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
o-Xylene	0.86U	U	ug/kg	1.7	0.86	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
mp-Xylene	1.7U	U	ug/kg	3.5	1.7	0.43	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.2		%	56 - 124	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
4-Bromofluorobenzene (S)	105		%	85 - 120	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Dibromofluoromethane (S)	93.8		%	62 - 123	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E
Toluene-d8 (S)	98.8		%	85 - 115	SW846 8260B	3/20/15	TMP	3/30/15 13:00	JPA	E

LIBRARY SEARCH - VOLATILES

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
No TIC's Detected	.						Lib Search VOC			3/30/15 13:00	CPK	C

SEMIVOLATILES

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	68.9U	U	ug/kg	103	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Acenaphthylene	68.9U	U	ug/kg	103	68.9	11.3	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Anthracene	68.9U	U	ug/kg	103	68.9	10.3	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Benzo(a)anthracene	68.9U	U	ug/kg	103	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Benzo(a)pyrene	68.9U	U	ug/kg	103	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Benzo(b)fluoranthene	68.9U	U	ug/kg	103	68.9	24.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Benzo(g,h,i)perylene	68.9U	U	ug/kg	103	68.9	21.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Benzo(k)fluoranthene	68.9U	U	ug/kg	103	68.9	19.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
4-Bromophenyl-phenylether	68.9U	U	ug/kg	278	68.9	23.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Butylbenzylphthalate	68.9U	U	ug/kg	278	68.9	26.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Carbazole	68.9U	U	ug/kg	278	68.9	13.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
4-Chloro-3-methylphenol	68.9U	U	ug/kg	278	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356013**
Sample ID: **LMSB-13**
Date Collected: 3/18/2015 13:41
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
4-Chloroaniline	206U	U	ug/kg	278	206	138	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
bis(2-Chloroethoxy)methane	68.9U	U	ug/kg	278	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
bis(2-Chloroethyl)ether	68.9U	U	ug/kg	278	68.9	20.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
bis(2-Chloroisopropyl)ether	68.9U	U	ug/kg	278	68.9	25.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Chloronaphthalene	68.9U	U	ug/kg	278	68.9	14.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Chlorophenol	206U	U	ug/kg	278	206	18.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
4-Chlorophenyl-phenylether	68.9U	U	ug/kg	278	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Chrysene	68.9U	U	ug/kg	103	68.9	13.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
mp-Cresol	68.9U	U	ug/kg	278	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
o-Cresol	68.9U	U	ug/kg	278	68.9	22.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Di-n-Butylphthalate	68.9U	U	ug/kg	278	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Di-n-Octylphthalate	68.9U	U	ug/kg	278	68.9	40.1	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Dibenzo(a,h)anthracene	68.9U	U	ug/kg	103	68.9	12.3	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Dibenzofuran	68.9U	U	ug/kg	278	68.9	11.3	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
1,2-Dichlorobenzene	68.9U	U	ug/kg	278	68.9	13.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
1,3-Dichlorobenzene	68.9U	U	ug/kg	278	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
1,4-Dichlorobenzene	68.9U	U	ug/kg	278	68.9	17.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
3,3-Dichlorobenzidine	206U	U	ug/kg	556	206	72.0	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4-Dichlorophenol	68.9U	U	ug/kg	278	68.9	18.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Diethylphthalate	68.9U	U	ug/kg	278	68.9	13.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4-Dimethylphenol	138U	U	ug/kg	278	138	79.2	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Dimethylphthalate	68.9U	U	ug/kg	278	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4-Dinitrophenol	823U	U	ug/kg	556	823	65.8	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4-Dinitrotoluene	68.9U	U	ug/kg	278	68.9	29.8	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,6-Dinitrotoluene	68.9U	U	ug/kg	278	68.9	24.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
bis(2-Ethylhexyl)phthalate	206U	U	ug/kg	278	206	23.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Fluoranthene	68.9U	U	ug/kg	103	68.9	19.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Fluorene	68.9U	U	ug/kg	103	68.9	20.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Hexachlorobenzene	68.9U	U	ug/kg	278	68.9	19.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Hexachlorobutadiene	68.9U	U	ug/kg	278	68.9	26.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Hexachlorocyclopentadiene	206U	U	ug/kg	278	206	89.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Hexachloroethane	68.9U	U	ug/kg	278	68.9	17.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Indeno(1,2,3-cd)pyrene	68.9U	U	ug/kg	103	68.9	18.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Isophorone	68.9U	U	ug/kg	278	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Methyl-4,6-dinitrophenol	206U	U	ug/kg	278	206	59.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Methylnaphthalene	68.9U	U	ug/kg	278	68.9	16.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Naphthalene	68.9U	U	ug/kg	103	68.9	24.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Nitroaniline	206U	U	ug/kg	278	206	134	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356013** Date Collected: 3/18/2015 13:41 Matrix: Solid
Sample ID: **LMSB-13** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	206U	U	ug/kg	278	206	182	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
4-Nitroaniline	206U	U	ug/kg	278	206	144	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Nitrobenzene	68.9U	U	ug/kg	278	68.9	21.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Nitrophenol	68.9U	U	ug/kg	278	68.9	27.8	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
4-Nitrophenol	138U	U	ug/kg	278	138	104	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
N-Nitroso-di-n-propylamine	206U	U	ug/kg	278	206	17.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
N-Nitrosodiphenylamine	68.9U	U	ug/kg	278	68.9	17.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Pentachlorophenol	206U	U	ug/kg	556	206	37.0	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Phenanthrene	68.9U	U	ug/kg	103	68.9	14.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Phenol	68.9U	U	ug/kg	278	68.9	15.4	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Pyrene	68.9U	U	ug/kg	103	68.9	18.5	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
1,2,4-Trichlorobenzene	68.9U	U	ug/kg	278	68.9	23.7	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4,5-Trichlorophenol	68.9U	U	ug/kg	278	68.9	20.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2,4,6-Trichlorophenol	68.9U	U	ug/kg	278	68.9	20.6	SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	78.4		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Fluorobiphenyl (S)	74.6		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
2-Fluorophenol (S)	73.9		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Nitrobenzene-d5 (S)	77.2		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Phenol-d5 (S)	77.1		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
Terphenyl-d14 (S)	75.3		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 15:05	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 15:05	DRS	A
WET CHEMISTRY												
Moisture	4.7		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	95.3		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	4010		mg/kg	36.2	24.0	11.8	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Antimony, Total	0.59U	U	mg/kg	0.90	0.59	0.30	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Arsenic, Total	2.3		mg/kg	1.4	0.90	0.45	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Barium, Total	45.5		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Beryllium, Total	0.19J	J	mg/kg	0.45	0.30	0.15	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Cadmium, Total	0.30U	U	mg/kg	0.45	0.30	0.15	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Calcium, Total	606		mg/kg	45.2	30.3	7.2	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Chromium, Total	5.6		mg/kg	0.90	0.59	0.30	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Cobalt, Total	4.1		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Copper, Total	10.1		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356013**
Sample ID: **LMSB-13**
Date Collected: 3/18/2015 13:41
Date Received: 3/19/2015 16:52
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	9490		mg/kg	22.6	14.9	7.2	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Lead, Total	13.5		mg/kg	0.90	0.59	0.30	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Magnesium, Total	1700		mg/kg	45.2	30.3	4.5	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Manganese, Total	528		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Mercury, Total	0.059U	U	mg/kg	0.090	0.059	0.030	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Nickel, Total	8.6		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Potassium, Total	658		mg/kg	45.2	30.3	5.9	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Selenium, Total	1.5U	U	mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Silver, Total	0.59U	U	mg/kg	0.90	0.59	0.30	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Sodium, Total	52.8		mg/kg	45.2	30.3	4.5	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Thallium, Total	0.30U	U	mg/kg	0.45	0.30	0.15	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Vanadium, Total	3.8		mg/kg	1.4	0.90	0.45	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
Zinc, Total	37.6		mg/kg	2.3	1.5	0.72	SW846 6020A	3/23/15	AAM	4/3/15 11:19	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:02	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356014** Date Collected: 3/17/2015 09:15 Matrix: Solid

Sample ID: **LMSB-14** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS												
Acetone	6.9U	U	ug/kg	13.8	6.9	4.4	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Benzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Bromochloromethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Bromodichloromethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Bromoform	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Bromomethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
2-Butanone	6.9U	U	ug/kg	13.8	6.9	3.5	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Carbon Disulfide	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Carbon Tetrachloride	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Chlorobenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Chlorodibromomethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Chloroethane	3.5U	U	ug/kg	6.9	3.5	1.5	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Chloroform	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Chloromethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Cyclohexane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2-Dibromo-3-chloropropane	3.5U	U	ug/kg	6.9	3.5	2.1	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2-Dibromoethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2-Dichlorobenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,3-Dichlorobenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,4-Dichlorobenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Dichlorodifluoromethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,1-Dichloroethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2-Dichloroethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,1-Dichloroethene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
cis-1,2-Dichloroethene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
trans-1,2-Dichloroethene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2-Dichloropropane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
cis-1,3-Dichloropropene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
trans-1,3-Dichloropropene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,4-Dioxane	34.5U	U	ug/kg	104	34.5	20.4	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Ethylbenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Freon 113	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
2-Hexanone	6.9U	U	ug/kg	13.8	6.9	3.5	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Isopropylbenzene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Methyl acetate	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Methyl cyclohexane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356014**	Date Collected:	3/17/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-14**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
4-Methyl-2-Pentanone(MIBK)	6.9U	U	ug/kg	13.8	6.9	3.5	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Methylene Chloride	24.0	1	ug/kg	2.8	1.4	0.83	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Styrene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,1,2,2-Tetrachloroethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Tetrachloroethene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Toluene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2,3-Trichlorobenzene	1.4U	U	ug/kg	6.9	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,2,4-Trichlorobenzene	1.4U	U	ug/kg	6.9	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,1,1-Trichloroethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
1,1,2-Trichloroethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Trichloroethene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Trichlorofluoromethane	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Vinyl Chloride	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
o-Xylene	1.4U	U	ug/kg	2.8	1.4	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
mp-Xylene	2.8U	U	ug/kg	5.5	2.8	0.69	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	56 - 124	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
4-Bromofluorobenzene (S)	103		%	85 - 120	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Dibromofluoromethane (S)	99.3		%	62 - 123	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E
Toluene-d8 (S)	97		%	85 - 115	SW846 8260B	3/20/15	TMP	3/30/15 13:23	JPA	E

LIBRARY SEARCH - VOLATILES

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
No TIC's Detected	.						Lib Search VOC			3/30/15 13:23	CPK	C

SEMIVOLATILES

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	78.6U	U	ug/kg	117	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Acenaphthylene	78.6U	U	ug/kg	117	78.6	12.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Anthracene	78.6U	U	ug/kg	117	78.6	11.7	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Benzo(a)anthracene	78.6U	U	ug/kg	117	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Benzo(a)pyrene	78.6U	U	ug/kg	117	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Benzo(b)fluoranthene	78.6U	U	ug/kg	117	78.6	28.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Benzo(g,h,i)perylene	78.6U	U	ug/kg	117	78.6	24.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Benzo(k)fluoranthene	78.6U	U	ug/kg	117	78.6	22.3	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
4-Bromophenyl-phenylether	78.6U	U	ug/kg	317	78.6	27.0	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Butylbenzylphthalate	78.6U	U	ug/kg	317	78.6	30.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Carbazole	78.6U	U	ug/kg	317	78.6	15.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
4-Chloro-3-methylphenol	78.6U	U	ug/kg	317	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356014** Date Collected: 3/17/2015 09:15 Matrix: Solid
Sample ID: **LMSB-14** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
4-Chloroaniline	235U	U	ug/kg	317	235	157	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
bis(2-Chloroethoxy)methane	78.6U	U	ug/kg	317	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
bis(2-Chloroethyl)ether	78.6U	U	ug/kg	317	78.6	23.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
bis(2-Chloroisopropyl)ether	78.6U	U	ug/kg	317	78.6	29.3	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Chloronaphthalene	78.6U	U	ug/kg	317	78.6	16.4	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Chlorophenol	235U	U	ug/kg	317	235	21.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
4-Chlorophenyl-phenylether	78.6U	U	ug/kg	317	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Chrysene	78.6U	U	ug/kg	117	78.6	15.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
mp-Cresol	78.6U	U	ug/kg	317	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
o-Cresol	78.6U	U	ug/kg	317	78.6	25.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Di-n-Butylphthalate	78.6U	U	ug/kg	317	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Di-n-Octylphthalate	78.6U	U	ug/kg	317	78.6	45.7	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Dibenzo(a,h)anthracene	78.6U	U	ug/kg	117	78.6	14.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Dibenzofuran	78.6U	U	ug/kg	317	78.6	12.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
1,2-Dichlorobenzene	78.6U	U	ug/kg	317	78.6	15.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
1,3-Dichlorobenzene	78.6U	U	ug/kg	317	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
1,4-Dichlorobenzene	78.6U	U	ug/kg	317	78.6	19.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
3,3-Dichlorobenzidine	235U	U	ug/kg	633	235	82.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4-Dichlorophenol	78.6U	U	ug/kg	317	78.6	21.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Diethylphthalate	78.6U	U	ug/kg	317	78.6	15.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4-Dimethylphenol	157U	U	ug/kg	317	157	90.3	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Dimethylphthalate	78.6U	U	ug/kg	317	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4-Dinitrophenol	938U	U	ug/kg	633	938	75.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4-Dinitrotoluene	78.6U	U	ug/kg	317	78.6	34.0	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,6-Dinitrotoluene	78.6U	U	ug/kg	317	78.6	28.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
bis(2-Ethylhexyl)phthalate	235U	U	ug/kg	317	235	27.0	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Fluoranthene	78.6U	U	ug/kg	117	78.6	22.3	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Fluorene	78.6U	U	ug/kg	117	78.6	23.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Hexachlorobenzene	78.6U	U	ug/kg	317	78.6	22.3	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Hexachlorobutadiene	78.6U	U	ug/kg	317	78.6	30.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Hexachlorocyclopentadiene	235U	U	ug/kg	317	235	102	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Hexachloroethane	78.6U	U	ug/kg	317	78.6	19.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Indeno(1,2,3-cd)pyrene	78.6U	U	ug/kg	117	78.6	21.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Isophorone	78.6U	U	ug/kg	317	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Methyl-4,6-dinitrophenol	235U	U	ug/kg	317	235	68.0	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Methylnaphthalene	78.6U	U	ug/kg	317	78.6	18.8	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Naphthalene	78.6U	U	ug/kg	117	78.6	28.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Nitroaniline	235U	U	ug/kg	317	235	152	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID:	**2060356014**	Date Collected:	3/17/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-14**	Date Received:	3/19/2015 16:52		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
3-Nitroaniline	235U	U	ug/kg	317	235	208	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
4-Nitroaniline	235U	U	ug/kg	317	235	164	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Nitrobenzene	78.6U	U	ug/kg	317	78.6	24.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Nitrophenol	78.6U	U	ug/kg	317	78.6	31.7	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
4-Nitrophenol	157U	U	ug/kg	317	157	118	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
N-Nitroso-di-n-propylamine	235U	U	ug/kg	317	235	19.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
N-Nitrosodiphenylamine	78.6U	U	ug/kg	317	78.6	19.9	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Pentachlorophenol	235U	U	ug/kg	633	235	42.2	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Phenanthrene	78.6U	U	ug/kg	117	78.6	16.4	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Phenol	78.6U	U	ug/kg	317	78.6	17.6	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Pyrene	78.6U	U	ug/kg	117	78.6	21.1	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
1,2,4-Trichlorobenzene	78.6U	U	ug/kg	317	78.6	27.0	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4,5-Trichlorophenol	78.6U	U	ug/kg	317	78.6	23.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2,4,6-Trichlorophenol	78.6U	U	ug/kg	317	78.6	23.5	SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*			*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	76.1		%	35 - 125			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Fluorobiphenyl (S)	69.7		%	45 - 105			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
2-Fluorophenol (S)	67.5		%	35 - 105			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Nitrobenzene-d5 (S)	71.3		%	35 - 100			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Phenol-d5 (S)	71.1		%	40 - 100			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
Terphenyl-d14 (S)	70.8		%	30 - 125			SW846 8270D	3/27/15	BS	3/28/15 15:31	GEC	A
LIBRARY SEARCH - SEMI-VOLATILE												
No TIC's Detected	.						Lib Search SV			3/28/15 15:31	DRS	A
WET CHEMISTRY												
Moisture	17.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
Total Solids	83.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	A
METALS												
Aluminum, Total	2620		mg/kg	48.2	31.9	15.7	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Antimony, Total	0.78U	U	mg/kg	1.2	0.78	0.40	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Arsenic, Total	1.1J	J	mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Barium, Total	23.8		mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Beryllium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Cadmium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Calcium, Total	330		mg/kg	60.2	40.3	9.6	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Chromium, Total	3.2		mg/kg	1.2	0.78	0.40	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Cobalt, Total	2.3J	J	mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Copper, Total	3.6		mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

Lab ID: **2060356014** Date Collected: 3/17/2015 09:15 Matrix: Solid
Sample ID: **LMSB-14** Date Received: 3/19/2015 16:52

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
Iron, Total	5560		mg/kg	30.1	19.9	9.6	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Lead, Total	6.2		mg/kg	1.2	0.78	0.40	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Magnesium, Total	1120		mg/kg	60.2	40.3	6.0	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Manganese, Total	91.1		mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Mercury, Total	0.048J	J	mg/kg	0.12	0.078	0.040	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Nickel, Total	5.2		mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Potassium, Total	362		mg/kg	60.2	40.3	7.8	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Selenium, Total	2.0U	U	mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Silver, Total	0.78U	U	mg/kg	1.2	0.78	0.40	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Sodium, Total	68.1		mg/kg	60.2	40.3	6.0	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Thallium, Total	0.40U	U	mg/kg	0.60	0.40	0.20	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Vanadium, Total	2.6		mg/kg	1.8	1.2	0.60	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
Zinc, Total	20.5		mg/kg	3.0	2.0	0.96	SW846 6020A	3/23/15	AAM	4/3/15 11:34	MO	A1
SUBCONTRACTED ANALYSIS												
Subcontracted Analysis	See attached						Subcontract			4/20/15 15:02	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2060356001	1	LMSB-1	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356001	2	LMSB-1	SW846 8260B	Methylene Chloride
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 153 and the control limits were 55 to 140.				
2060356001	3	LMSB-1	SW846 8260B	Methylene Chloride
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 166 and the control limits were 55 to 140.				
2060356001	4	LMSB-1	SW846 8260B	Freon 113
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Freon 113. The % Recovery was reported as 134 and the control limits were 40 to 109.				
2060356001	5	LMSB-1	SW846 8260B	Freon 113
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Freon 113. The % Recovery was reported as 152 and the control limits were 40 to 109.				
2060356001	6	LMSB-1	SW846 8260B	Isopropylbenzene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Isopropylbenzene. The % Recovery was reported as 74.9 and the control limits were 75 to 130.				
2060356002	1	LMSB-2	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356003	1	LMSB-3	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356004	1	LMSB-4	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356005	1	LMSB-5	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356006	1	LMSB-6	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356007	1	LMSB-7	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356008	1	LMSB-8	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356009	1	LMSB-9	SW846 8270D	Phenol-d5
The surrogate Phenol-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 38.8 and the control limits were 40 to 100. This result was reported at a dilution of 1.				
2060356009	2	LMSB-9	SW846 8270D	2-Fluorobiphenyl
The surrogate 2-Fluorobiphenyl for method SW846 8270D was outside of control limits. The % Recovery was reported as 40.3 and the control limits were 45 to 105. This result was reported at a dilution of 1.				
2060356009	3	LMSB-9	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356010	1	LMSB-10	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356011	1	LMSB-11	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356012	1	LMSB-12	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				

ANALYTICAL RESULTS

Workorder: 2060356 GLM001|2015-LIVINGSTON MNR-NY

2060356013	1	LMSB-13	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				
2060356014	1	LMSB-14	SW846 8260B	Methylene Chloride
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Methylene Chloride.				

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/ SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2

Courier:

Tracking #:

2060356

Co. Name: GTS Technologies

Contact (Report to): Meredith Glazier Phone: 717-920-7062

Address: 441 Friendship Rd
Harrisburg PA 17111

Bill to (if different than Report to): same

PO#: 14003

Project Name/#:

ALS Quote #: 476833

TAT: ☒ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? ☒ -Y msglazier@gtstech.com

Fax? ☐ -Y No.:

				***Container Type			C	E	C
				***Container Size			16oz	5g	16oz
				***Preservative			NA	NA	NA
				ANALYSES/METHOD REQUESTED			TCL SVOC, TAL Metals, TS	TCL VOC, LS	1060 Soil Fertility
							Enter Number of Containers Per Analysis		
	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix			
1	LMSB-1		3/17/15	1300	G	SO	1	3	1
2	LMSB-2		3/17/15	1355	↓	↓	↓	↓	↓
3	LMSB-3		3/17/15	1405	↓	↓	↓	↓	↓
4	LMSB-4		3/17/15	1425	↓	↓	↓	↓	↓
5	LMSB-5		3/18/15	0810	↓	↓	↓	↓	↓
6	LMSB-6		3/18/15	0845	↓	↓	↓	↓	↓
7	LMSB-7		3/18/15	0915	↓	↓	↓	↓	↓
8	LMSB-8		3/18/15	0950	↓	↓	↓	↓	↓

Receipt Information (completed by Sample Receiving)

Performed by: AJ

Cooler Temp: 1

Therm. ID: 77791

No. of Coolers:

Notes:

Correct containers? [✓ Y] N

Correct sample volume? [✓ Y] N

Correct preservation? [✓ Y] N

Headspace/Volatiles? Y N

Circle appropriate Y or N.

Custody seals Present? [✓ Y] N

(If present) Seals intact? [✓ Y] N

Received on Ice? [✓ Y] N

COC/Labels complete/accurate? [✓ Y] N

Container in good condition? [✓ Y] N

SAMPLED BY (Please Print): Eric Wettmer

Project Comments: Rush 3/19 2125

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1		3/19/15	1652	2		3/19/15	1652
3				4			
5				6			
7				8			
9				10			

Data Deliverables:
☐ Standard
☐ CLP-like
☐ NJ-Reduced
☐ NJ-Full
☐ (new)

EDDs Required? ☒ If yes, format type: Other

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐

DOD Criteria Required? YES

ALS FIELD SERVICES
☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/ SAMPLER. INSTRUCTIONS ON THE BACK.

JMB

Page 2 of 2

Courier:

Tracking #:

356

Co. Name: GTS Technologies
Contact (Report to): Meredith Glazier
Phone: 717-920-7002
Address: 441 Friendship Rd
Harrisburg PA 17111

Bill to (if different than Report to): Same

PO#: 14003

ALS Quote #: 476833

Project Name/#:

TAT: ☒ Normal-Standard TAT is 10-12 business days.
☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? ☒ -Y mglazier@gtstech.com

Fax? ☐ -Y No.:

***Container Type	C	E	C			
***Container Size	16oz	5g	16oz			
*** Preservative	NA	NA	NA			

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TCL SVOC, TAL Metals, TS	TCL VOC + LS	1000 Soil Fertility
1 LMSB-9		3/18/15	1408	G	SO	1	3	1
2 LMSB-10		3/15/15	1430					
3 LMSB-11		3/15/15	1500					
4 LMSB-12		3/15/15	1530					
5 LMSB-13		3/15/15	1311					
6 LMSB-14		3/18/15	0915					
7								
8								

Receipt Information (completed by Sample Receiving)

Performed by:

Cooler Temp:

Therm. ID: TH371

No. of Coolers:

Notes:

Circle appropriate Y or N.

Correct containers? [✓ Y] N
Correct sample volume? [✓ Y] N
Correct preservation? [✓ Y] N
Headspace/Volatiles? Y N
Custody seals Present? [✓ Y] N
(if present) Seals intact? [✓ Y] N
Received on ice? [✓ Y] N
COC/Labels complete/accurate? [✓ Y] N
Container in good condition? [✓ Y] N

SAMPLED BY (Please Print): Eric Wehmer

Project Comments: Rmk 3/19 2125

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	3/19/15	1652	2	3/19/15	1652
3			4		
5			6		
7			8		
9			10		

Data Deliverables

☐ Standard
☐ CLP-like
☐ NJ-Reduced
☐ NJ-Full
☐ (other)

SDWA Forms? ⇨
yes ☐
yes ☐
yes ☐
yes ☐

State Samples Collected In?
MD ☐
NJ ☐
NY ☒
PA ☐

EDDs Required? ☒ If yes, format type: Other

DOD Criteria Required? Yes

ALS FIELD SERVICES

☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:

ALS Quote #:

1 of 2

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vanessa Badman

Phone#: (717) 944-5541

Project Name/#: G2573: 2060356

Bill To: ALS Environmental

TAT ☒ Normal-Standard TAT is 10-12 business days.
☐ Rush-Subject to ALS approval and surcharges.

Date Required: ______ **Approved By:** ______

Email? ☒ -Y ALMDT.Subcontract@ALSGlobal.com

Fax? ☐ -Y No.:

Container Type	CG
Container Size	16 oz
Preservative	None

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	1060 Soil Fertility
1 2060356001	03/17/15	13:00	G	SD	1
2 2060356002	03/17/15	1355	G	SD	1
3 2060356003	03/17/15	1405	G	SD	1
4 2060356004	03/17/15	1425	G	SD	1
5 2060356005	03/18/15	0810	G	SD	1
6 2060356006	03/18/15	0845	G	SD	1
7 2060356007	03/18/15	0915	G	SD	1
8 2060356008	03/18/15	0950	G	SD	1
9 2060356009	03/18/15	1408	G	SD	1
10 2060356010	03/18/15	1430	G	SD	1

Receipt Information (completed by Receiving Lab)

Cooler Temp: ______ Therm ID: ______

No. of Coolers: ______

	Y	N	Initial
Custody Seals Present?	☐	☐	
(if present) Seals Intact?	☐	☐	
Received on Ice?	☐	☐	
COC/Labels Complete/Accurate?	☐	☐	
Cont. in Good Cond.?	☐	☐	
Correct Containers?	☐	☐	
Correct Sample Volumes?	☐	☐	
Correct Preservation?	☐	☐	
Headspace/Volatiles?	☐	☐	

Courier/Tracking #:

Sample/COC Comments

*DOD Project for New York State.

* Please provide an Internal COC and a CLP-like Package.
JNB 3-2015

ALS Field Services: ☐Pickup ☐Labor ☐Composite_Sampling ☐Rental_Equipment ☐Other: ______

Project Comments:

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Ce	3/23/15	1620	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables
☐ Standard
☐ CLP-like
☐ USACE
☐

Special Processing
USACE ☐
Navy ☐
☐

State Samples Collected In
☒ NY
☐ NJ
☐ PA
☐ NC
☐

Reportable to PADEP?
Yes ☐
PWSID # ______

Sample Disposal
Lab ☒
Special ☐

EDDS: Format Type- ______

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

ALS Environmental

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:

ALS Quote #:

2 of 2

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vanessa Badman

Phone#: (717) 944-5541

Project Name/#: G2573: 2060356

Bill To: ALS Environmental

TAT ☒ Normal-Standard TAT is 10-12 business days.
☐ Rush-Subject to ALS approval and surcharges.

Date Required: Approved By:

Email? ☒-Y ALMDT.Subcontract@ALSGlobal.com

Fax? ☐-Y No.:

Container Type	CG
Container Size	16 oz
Preservative	None

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	1060 Soil Fertility	Sample/COC Comments
1 2060356011	03/18/15	1500	G	SD	1	*DOD Project for New York State.
2 2060356012	03/18/15	1530	G	SD	1	
3 2060356013	03/18/15	1341	G	SD	1	
4 2060356014	03/17/15	0915	G	SD	1	

Receipt Information (completed by Receiving Lab)

Cooler Temp: ____ Therm ID: ____

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?	☐	☐	
(if present) Seals Intact?	☐	☐	
Received on Ice?	☐	☐	
COC/Labels Complete/Accurate?	☐	☐	
Cont. in Good Cond.?	☐	☐	
Correct Containers?	☐	☐	
Correct Sample Volumes?	☐	☐	
Correct Preservation?	☐	☐	
Headspace/Volatiles?	☐	☐	

Courier/Tracking #:

ALS Field Services: ☐Pickup ☐Labor ☐Composite_Sampling ☐Rental_Equipment ☐Other:

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Ce	3/23/15	1620	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ USACE ☐

Special Processing: USACE ☐ Navy ☐ ☐

State Samples Collected In: ☒ NY ☐ NJ ☐ PA ☐ NC ☐

Reportable to PADEP? Yes ☐

PWSID #

Sample Disposal: Lab ☒ Special ☐

EDDS: Format Type-

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

September 2014

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CORNELL NUTRIENT ANALYSIS LABORATORY

G01 Bradfield Hall, Ithaca, NY 14853
Phone: (607) 255-4540; Fax: (607) 255-7656
Email: soiltest@cornell.edu; Web: http://cnal.cals.cornell.edu

SOIL ANALYSIS

Contact Information

Name Vanessa Badman

Address 34 Dogwood Lane

City Middletown

State PA Zip 17057

Company/Department ALS Env.

Telephone (717)944-5541

Fax

Email vanessa.badman@ALSGlobal.co

Sample Information

Sample Description DOD Soils, New York State

Submission Date 3/24/15 Number of Samples 14

☒ email results ☐ fax results ☐ mail results

Cornell researchers please contact the lab regarding special arrangements prior to sample submission.

☐ Rush order. Please Contact Lab to be certain that RUSH is available at the time of sample submission- RUSH request is not an option on Packages where more than one test is required (ie:1030,1060). Results returned within 5 business days from date samples received. (Please add an additional 50% of the test cost/sample to your total)

☐ Special report formatting needed. Please contact lab with details. ($50/hr; 30 min increments)

☐ Quarantine Samples. Please contact Robert Schindelbeck (rrs3@cornell.edu) for instruction and permission to use our USDA-APHIS permit. A 15% surcharge will be added for all Quarantine samples.

☒ Retain samples for 1 month after samples are received. (no charge)

☐ Potentially hazardous samples; please supply details:

☐ Additional sample processing required. Please contact lab with details. ($35/hr; 30 min increments)

Please mark your samples/containers with consecutive #'s for lab to use as your sample identification. On a separate sheet, you may provide a sample description that matches the #'s on your sample containers.

Please retain a copy of the completed form for your records.

Payment Information:

Total Amount Owed: $_____.____

Our payment policies have changed – please see below.

Please indicate your method of payment below. If none of these choices apply to you, you will be given the option to pay by Credit Card (providing your cost totals ***$50 or more***), using the link on your invoice notification.

Checks made payable to CNAL, or Account/PO information due upon sample submission.

○ Check # or Account #

○ Purchase Order (P.O.) Number

Discounts (by prior arrangement only) may be given for samples submitted dried and ground

to meet CNAL specifications. -call for details.

Anticipate 2-3 weeks for the completion of tests.

Please select types of analyses from list on the reverse side.

CORNELL NUTRIENT ANALYSIS LABORATORY
G01 Bradfield Hall, Ithaca, NY 14853
Phone: (607) 255-4540; Fax: (607) 255-7656
Email: soiltest@cornell.edu; Web: http://cnal.cals.cornell.edu

S

SOIL ANALYSIS

For Fertilizer Recommendations, please submit your soil sample and payment directly to: *Agro-One;www.dairyone.com/AgroOne*

Soil Fertility Analyses : (NO recommendations with this analysis).

			Cost per Sample
☒	1060	Soil Fertility Test Package #2 [Modified Morgan, Mehlich I, or Mehlich III extractable includes: Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Se, Sr, Ti, V, Zn (ICP); pH; buffer pH (Modified Mehlich); and organic matter (LOI)]	$17.00
☐	1030	Morgan Extraction,**(For Researchers Only)**Limited Elements; K, Ca, Mg, Fe, Mn, Zn, Al	$20.00
☐	1050	Pre-Sidedress Nitrogen Test (PSNT), nitrate only (see PSNT submission form)	$10.00

pH, Buffer (Modified Mehlich) pH, EC, OM, TN, TC, TOC, TIC, Exchangeable Cations

			Cost per Sample
☐	1810	Organic matter [(Loss on ignition (LOI) method]	$7.00
☐	1820	pH in water	$7.00
☐	1830	pH in 0.01 M $CaCl_2$	$7.00
☐	1880	Soluble salts (conductivity)	$8.00
☐	1840	Buffer pH (Modified Mehlich buffer)	$6.00
☐	2031	NH_4OAc (buffered at pH 7) extractable bases Ca, Mg, K, Na	$25.00
☐	2032	NH_4OAc (buffered at pH 7) extractable Cation Exchange Capacity (CEC)	$30.00
☐	2041	NH_4Cl (unbuffered) extractable bases Ca, Mg, K, Na	$25.00
☐	2042	NH_4Cl (unbuffered) extractable CEC	$30.00
☐	2730	Kjeldahl Nitrogen……Currently in Development	$13.00
☐	2735	Total carbon and Total nitrogen (combustion analysis)	$15.00
☐	2750	Organic carbon (you must also check Test 2735 Total C+N, and Test 2740 Inorganic C)	$30.00
☐	2740	Inorganic carbon	$15.00
☐	2000	Customized Analysis.	please contact lab for pricing

Soil Health Assessment Chemical Tests /a la carte tests from Soil Health Assessment

For complete Soil Health Assessment Tests Packages see the Soil Health submission form http://soilhealth.cals.cornell.edu

			Cost per Sample
☐	2820	Potentially Mineralizable Nitrogen (PMN)	$25.00
☐	2821	Texture, Wet Aggregate Stability, Available Water Capacity, Active C, Bean Root Bioassay, Soil Respiration **Circle the test(s)you need from these 6 choices**	$12.00ea.
☐	2822	Autoclave Citrate Extractable (ACE) Protein test	$15.00

Total Elemental Analysis/Heavy Metal Screening

			Cost per Sample
☐	2021	Heavy Metals and Trace Elements (NEW) Suggested Method for Home Gardeners (replacement for 2020) Includes: Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Se, Sr, Ti, V, Zn	$25.00
☐	2020	Microwave assisted acid (HNO_3) digestion. (EPA Method 3051-6010)	$45.00
☐	2071	Lead screening (1M nitric acid extraction)	$20.00

Extractable Nutrients/Elements

			Cost per Sample
☐	2503	NH_4 (KCl extraction; colorimetric method)	$12.50
☐	2506	$NO_3 + NO_2$ (KCl extraction; colorimetric method)	$12.50
☐	2511	2503 NH_4 and 2506 $NO_3 + NO_2$ (KCl extraction; colorimetric method)	$14.00
☐	1230	DTPA extraction (pH 7.3) for micronutrients (Fe, Mn, Cu, and Zn)	$15.00
☐	1860	Hot water-soluble boron (B)	$15.00

Soil Physical Characteristics

			Cost per Sample
☐	1885	Particle size distribution (soil texture) Anticipate 4-5 weeks for the completion of the test (depends on the organic matter content of the sample)	$68.00
☐	1890	Sand content (sieve)	$20.00
☐	1940	Moisture retention curve (5 point)	$68.00
☐	1950	Moisture content at 15 bar	$30.00
☐	1960	Moisture content at 0.33 bar	$30.00

Lime Analyses:

			Cost per Sample
☐	2610	Complete lime analysis: calcium carbonate equivalent, total elements (P, K, Ca, Mg) Particle size, and moisture content	$73.00
☐	2611	Calcium carbonate equivalent and moisture content	$34.00
☐	2613	Total elements and moisture content	$20.00

Cornell Nutrient Analysis Laboratory
804 Bradfield Hall
Ithaca, New York 14853-4203
t.607.255.5410
f.607.255.7656
soiltest-mailbox@cornell.edu
web. http://www.cnal.cals.cornell.edu

1060 Modified Morgan
FN25806

Client: Vanessa Badman / ALS Env.
vanessa.badman@ALSGlobal.com

Sample ID	Moisture	pH	pH Buffer	LOI	Organic matter	Aluminum	Arsenic	Boron	Barium	Beryllium	Calcium	Cadmium
	%			%	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
1	0.84	4.10	5.37	4.11	2.65	82.41	0.25	0.04	21.81	-	139.15	0.07
2	0.83	4.30	5.59	4.63	3.01	86.28	0.28	0.03	17.22	-	88.21	0.05
3	0.51	4.67	5.82	2.29	1.37	51.77	0.18	0.01	19.05	-	321.03	0.09
4	0.40	5.02	5.88	2.34	1.41	49.67	0.19	0.03	21.85	-	232.42	0.05
5	0.99	4.88	5.65	5.87	3.88	84.57	0.25	0.06	13.02	-	592.96	0.11
6	0.57	4.50	5.80	3.03	1.89	75.63	0.24	0.03	16.08	-	141.39	0.05
7	0.36	4.37	5.83	2.10	1.24	71.78	0.24	0.05	9.53	-	32.35	0.03
8	0.45	4.36	5.72	1.87	1.08	74.30	0.21	0.00	12.84	-	95.52	0.02
9	0.38	4.82	5.77	2.97	1.85	77.31	0.22	0.01	13.32	-	154.73	0.07
10	0.43	4.21	5.71	1.95	1.13	77.87	0.22	0.00	22.68	-	123.15	0.01
11	0.33	5.69	6.21	6.00	3.97	15.43	0.26	0.06	18.97	-	848.24	0.09
12	0.16	4.92	6.20	0.93	0.42	37.68	0.16	0.00	10.56	-	159.94	0.01
13	0.11	7.46	-	0.75	0.29	40.19	0.18	0.94	21.72	-	427.57	0.04
14	0.12	6.64	-	0.81	0.34	14.33	0.20	0.03	14.02	-	450.20	0.02

Sample ID	Moisture	Cobalt	Chromium	Copper	Magnesium	Manganese	lolybdenu	Sodium	Nickel	Phosphoru	Lead	Sulfur
	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
1	0.84	0.07	0.09	0.24	15.92	28.32	0.02	19.99	0.31	13.76	1.61	16.53
2	0.83	0.33	0.13	0.21	17.48	113.77	0.02	23.71	0.25	14.48	2.43	20.21
3	0.51	0.02	0.06	0.29	15.01	12.74	0.00	14.80	0.21	3.89	2.06	5.29
4	0.40	0.02	0.03	0.56	32.73	23.38	0.00	16.74	0.29	3.54	1.04	5.04
5	0.99	0.03	0.07	0.22	45.34	12.45	0.00	21.92	0.14	4.91	3.78	24.19
6	0.57	0.06	0.11	0.23	12.16	37.08	0.01	23.83	0.24	8.28	1.23	9.96
7	0.36	0.15	0.13	0.51	11.27	37.33	0.01	16.90	0.23	17.17	1.51	8.75
8	0.45	0.09	0.08	0.10	14.75	36.42	0.00	15.56	0.14	5.36	0.47	51.10
9	0.38	0.02	0.05	0.29	12.51	31.57	0.00	16.13	0.21	7.49	0.81	24.70
10	0.43	0.01	0.07	0.36	2.96	7.09	0.00	18.80	0.09	9.14	0.26	19.64
11	0.33	0.00	0.01	0.68	32.88	5.31	-0.01	16.56	0.17	12.96	10.17	6.66
12	0.16	0.00	0.00	0.10	7.23	3.60	-0.01	12.95	0.01	3.36	0.31	4.41
13	0.11	0.25	0.56	0.49	34.59	110.88	0.01	94.57	1.25	2.09	5.25	6.59
14	0.12	0.00	0.07	0.75	21.82	9.69	-0.01	61.18	0.06	8.21	2.22	3.84

Sample ID	Moisture	Iron	Mercury	Potassium	Lithium	Antimony	Selenium	Silicon	Strontium	Titanium	Thallium	Vanadium
	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
1	0.84	46.76	-	39.24	-	-	0.11	3.39	0.88	0.06	-	0.00
2	0.83	43.39	-	56.13	-	-	0.15	3.38	0.48	0.08	-	0.00
3	0.51	15.52	-	23.77	-	-	0.08	2.46	1.36	0.01	-	0.00
4	0.40	13.67	-	46.09	-	-	0.08	3.56	1.26	0.01	-	0.00
5	0.99	23.56	-	59.48	-	-	0.11	5.29	3.17	0.04	-	0.00
6	0.57	58.99	-	16.79	-	-	0.10	5.16	0.95	0.10	-	0.00
7	0.36	97.87	-	32.59	-	-	0.09	5.55	0.23	0.13	-	0.00
8	0.45	41.11	-	20.62	-	-	0.08	8.99	0.47	0.01	-	0.00
9	0.38	27.94	-	17.90	-	-	0.10	4.12	0.80	0.04	-	0.00
10	0.43	19.88	-	10.36	-	-	0.09	7.63	0.91	0.01	-	0.00
11	0.33	4.28	-	22.51	-	-	0.07	3.38	4.05	0.00	-	0.00
12	0.16	7.04	-	10.22	-	-	0.07	2.71	0.60	0.00	-	0.00
13	0.11	172.59	-	48.12	-	-	0.10	28.74	1.70	0.00	-	0.00
14	0.12	8.55	-	19.16	-	-	0.07	7.18	3.24	0.00	-	0.00

Sample ID	Moisture	Zinc
	%	mg/Kg
1	0.84	1.98
2	0.83	1.69
3	0.51	4.40
4	0.40	2.85
5	0.99	5.35
6	0.57	0.82
7	0.36	0.86
8	0.45	0.42
9	0.38	2.31
10	0.43	0.55
11	0.33	37.04
12	0.16	0.32
13	0.11	2.86
14	0.12	1.58

ALS Environmental
34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

July 6, 2015

Ms. Meredith Glazier
GTS Technologies Inc.
441 Friendship Road
Harrisburg, PA 17111

Certificate of Analysis

Project Name:	**2015-LIVINGSTON**	Workorder:	**2079342**
Purchase Order:		Workorder ID:	**2015-LIVINGSTON**

Dear Ms. Glazier:

Enclosed are the analytical results for samples received by the laboratory on Friday, June 26, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Joe Nardella , Mr. Peter Gori , Mr. Joseph Loeper , Mr. John Chamberlain , Ms. Lily Sehayek , Mr. Joseph Loeper

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

SAMPLE SUMMARY

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2079342001	LMSB-1	Solid	3/17/2015 13:00	6/26/2015 16:30	Collected by Client
2079342002	LMSB-2	Solid	3/17/2015 13:55	6/26/2015 16:30	Collected by Client
2079342003	LMSB-3	Solid	3/17/2015 14:05	6/26/2015 16:30	Collected by Client
2079342004	LMSB-4	Solid	3/17/2015 14:25	6/26/2015 16:30	Collected by Client
2079342005	LMSB-5	Solid	3/18/2015 08:10	6/26/2015 16:30	Collected by Client
2079342006	LMSB-6	Solid	3/18/2015 08:45	6/26/2015 16:30	Collected by Client
2079342007	LMSB-7	Solid	3/18/2015 09:15	6/26/2015 16:30	Collected by Client
2079342008	LMSB-8	Solid	3/18/2015 09:50	6/26/2015 16:30	Collected by Client
2079342009	LMSB-9	Solid	3/18/2015 14:08	6/26/2015 16:30	Collected by Client
2079342010	LMSB-10	Solid	3/18/2015 14:30	6/26/2015 16:30	Collected by Client
2079342011	LMSB-11	Solid	3/18/2015 15:00	6/26/2015 16:30	Collected by Client
2079342012	LMSB-12	Solid	3/18/2015 15:30	6/26/2015 16:30	Collected by Client
2079342013	LMSB-13	Solid	3/18/2015 13:41	6/26/2015 16:30	Collected by Client
2079342014	LMSB-14	Solid	3/17/2015 09:15	6/26/2015 16:30	Collected by Client

SAMPLE SUMMARY

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Notes

- -- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- -- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- -- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- -- The Chain of Custody document is included as part of this report.
- -- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- -- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- -- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342001**	Date Collected: 3/17/2015 13:00	Matrix:	Solid
Sample ID: **LMSB-1**	Date Received: 6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	3.4		mg/kg	2.7	2.7	2.7	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	2.0U	U	mg/kg	2.7	2.0	0.81	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	25.5		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	74.5	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342002**
Sample ID: **LMSB-2**
Date Collected: 3/17/2015 13:55
Date Received: 6/26/2015 16:30
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	4.1		mg/kg	3.3	3.3	3.3	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	2.4U	U	mg/kg	3.3	2.4	0.98	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	39.0		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	61.0	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342003**	Date Collected:	3/17/2015 14:05	Matrix:	Solid
Sample ID:	**LMSB-3**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	7.1		mg/kg	2.6	2.6	2.6	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	2.0U	U	mg/kg	2.6	2.0	0.79	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	22.2		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	77.8	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

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Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342004**
Sample ID: **LMSB-4**
Date Collected: 3/17/2015 14:25
Date Received: 6/26/2015 16:30
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	24.1		mg/kg	2.2	2.2	2.2	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.7U	U	mg/kg	2.2	1.7	0.66	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	9.3		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	90.7	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

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Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342005**	Date Collected:	3/18/2015 08:10	Matrix:	Solid
Sample ID:	**LMSB-5**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	9.7		mg/kg	2.8	2.8	2.8	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	2.2U	U	mg/kg	2.9	2.2	0.88	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	29.8		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	70.2	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

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Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342006**	Date Collected:	3/18/2015 08:45	Matrix:	Solid
Sample ID:	**LMSB-6**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	4.8		mg/kg	2.5	2.5	2.5	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.9U	U	mg/kg	2.5	1.9	0.76	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	20.3		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	79.7	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

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Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342007**	Date Collected:	3/18/2015 09:15	Matrix:	Solid
Sample ID:	**LMSB-7**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	8.5		mg/kg	2.5	2.5	2.5	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.8U	U	mg/kg	2.4	1.8	0.73	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	18.4		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	81.6	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342008**

Sample ID: **LMSB-8**

Date Collected: 3/18/2015 09:50

Date Received: 6/26/2015 16:30

Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
METALS												
Trivalent Chromium	6.2		mg/kg	2.5	2.5	2.5	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.9U	U	mg/kg	2.5	1.9	0.76	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	19.0		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	81.0	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342009**	Date Collected:	3/18/2015 14:08	Matrix:	Solid
Sample ID:	**LMSB-9**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	6.4		mg/kg	2.5	2.5	2.5	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.9U	U	mg/kg	2.5	1.9	0.76	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	21.3		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	78.7	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342010**	Date Collected:	3/18/2015 14:30	Matrix:	Solid
Sample ID:	**LMSB-10**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	3.7		mg/kg	2.7	2.7	2.7	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	2.1U	U	mg/kg	2.8	2.1	0.84	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	26.3		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	73.7	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman

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Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342011**
Sample ID: **LMSB-11**
Date Collected: 3/18/2015 15:00
Date Received: 6/26/2015 16:30
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	6.6		mg/kg	2.2	2.2	2.2	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.7U	U	mg/kg	2.2	1.7	0.67	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	8.2		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	91.8	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342012**
Sample ID: **LMSB-12**
Date Collected: 3/18/2015 15:30
Date Received: 6/26/2015 16:30
Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	5.1		mg/kg	2.2	2.2	2.2	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.6U	U	mg/kg	2.2	1.6	0.65	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	9.0		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	91.0	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID:	**2079342013**	Date Collected:	3/18/2015 13:41	Matrix:	Solid
Sample ID:	**LMSB-13**	Date Received:	6/26/2015 16:30		

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	5.6		mg/kg	2.1	2.1	2.1	Calculation			7/6/15 16:20	JWB	A
WET CHEMISTRY												
Hexavalent Chromium	1.5U	U	mg/kg	2.0	1.5	0.61	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	A
Moisture	3.2		%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A
Total Solids	96.8	1	%	0.1	0.1	0.01	S2540G-11			6/29/15 12:15	REA	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2079342 2015-LIVINGSTON MANOR-CHROMIUM

Lab ID: **2079342014**

Sample ID: **LMSB-14**

Date Collected: 3/17/2015 09:15

Date Received: 6/26/2015 16:30

Matrix: Solid

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Trivalent Chromium	3.2		mg/kg	2.4	2.4	2.4	Calculation			7/6/15 16:20	JWB	
WET CHEMISTRY												
Hexavalent Chromium	2.3U	U	mg/kg	3.0	2.3	0.90	SW846 7196A	7/1/15	KED	7/1/15 17:00	KED	
Moisture	17.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	
Total Solids	83.0		%	0.1	0.1	0.01	S2540G-11			3/20/15 07:14	AAP	

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2079342001	1	LMSB-1	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342002	1	LMSB-2	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342003	1	LMSB-3	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342004	1	LMSB-4	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342005	1	LMSB-5	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342006	1	LMSB-6	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342007	1	LMSB-7	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342008	1	LMSB-8	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342009	1	LMSB-9	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342010	1	LMSB-10	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342011	1	LMSB-11	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342012	1	LMSB-12	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				
2079342013	1	LMSB-13	S2540G-11	Total Solids
Analyte was analyzed past the 14 day holding time.				

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/ SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2
Courier:
Tracking #:

2079342

Co. Name: GTS Technologies
Contact (Report to): Meredith Glazier Phone: 717-920-7062
Address: 4411 Friendship Rd
Harrisburg PA 17111

Bill to (if different than Report to): same
PO#: 14003
ALS Quote #: 476833

Project Name/#:
TAT: ☒ Normal-Standard TAT is 10-12 business days.
☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? ☒ Y mglazier@gtstech.com
Fax? Y No:

***Container Type	C	E	C			
***Container Size	4oz	5g	4oz			
***Preservative	NA	NA	NA			

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TCL SVOC, TAL Metals, TS	TCL VOC, LS	1060 Soil Fertility	Profile	4996S 7.	Cr+6, Cr+3				
1	LMSB-1		3/17/15	1300	G	SO	1	3	1							
2	LMSB-2		3/17/15	1355												
3	LMSB-3		3/17/15	1405												
4	LMSB-4		3/17/15	1425												
5	LMSB-5		3/18/15	0810												
6	LMSB-6		3/18/15	0845												
7	LMSB-7	C 6/26/15 1459	3/18/15	0915												
8	LMSB-8		3/18/15	0950	↓	↓	↓	↓	↓							

(completed by Sample Receiving)
Performed by: AS
Cooler Temp: 1
Therm. ID: 7471
No. of Coolers:
Notes:

Circle appropriate Y or N.
- Correct containers? [✓ Y] N
- Correct sample volumes? [✓ Y] N
- Correct preservation? [✓ Y] N
- Headspace/Volatiles? Y N /
- Custody seals Present? [✓ Y] N
- (if present) Seals Intact? [✓ Y] N
- Received on Ice? [✓ Y] N
- COC/Labels complete/accurate? [✓ Y] N
- Container in good condition? [✓ Y] N

SAMPLED BY (Please Print): Eric Wettmer

Project Comments: Rush 3/19 2125

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1		3/19/15	1652	2		3/19/15	1652
3				4			
5				6	re-logged	6/26/15	1630
7				8			
9				10			

Data Deliverables:
☐ Standard
☐ CLP-like
☐ NJ-Reduced
☐ NJ-Full
☐
EDDs Required? ☒ If yes, format type:

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐ Other

State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐

DOD Criteria Required? YES

ALS FIELD SERVICES
☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Rev 01-2013

2079342

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/ SAMPLER. INSTRUCTIONS ON THE BACK.

VMB

Page 2 of 2

Courier:

Tracking #:

356

Co. Name: GTS Technologies

Contact (Report to): Meredith Glazier **Phone:** 717-920-7002

Address: 4411 Friendship Rd
Harrisburg PA 17111

Bill to (if different than Report to): Same **PO#:** 14003

Project Name/#: **ALS Quote #:** 476833

TAT: ☒ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? ☒ -Y mglazier@gtstech.com

Fax? ☐ -Y No.:

***Container Type	C	E	C	
***Container Size	16oz	5g	16oz	
*** Preservative	NA	NA	NA	

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TCL SVOC, TAL Metals, TS	TCL VOC + LS	1000 Soil Fertility
1	LMSB-9		3/18/15	1408	G	SO	1	3	1
2	LMSB-10		3/18/15	1430					
3	LMSB-11		3/18/15	1500					
4	LMSB-12		3/18/15	1530					
5	LMSB-13		3/18/15	1341					
6	LMSB-14		3/18/15	0915					
7		6/20/15 1459							
8									

Receipt Information (completed by Sample Receiving)

Performed By:

Cooler Temp:

Therm. ID: 7471

No. of Coolers:

Notes:

Correct containers? [✓ Y] N

Correct sample volume? [✓ Y] N

Correct preservation? [✓ Y] N

Headspace/Volatiles? Y N

Circle appropriate Y or N.

Custody seals Present? [✓ Y] N

(if present) Seals intact? [✓ Y] N

Received on Ice? [✓ Y] N

COC/Labels complete/accurate? [✓ Y] N

Container in good condition? [✓ Y] N

SAMPLED BY (Please Print): Eric Wettmer

Project Comments: Rvd 3/19 2125

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1		3/19/15	1652	2		3/19/15	1652
3				4			
5				6	released	6/22/15	1630
7				8			
9				10			

Data Deliverables:
☐ Standard
☐ CLP-like
☐ NJ-Reduced
☐ NJ-Full
☐ (other)

EDDs Required? ☒ If yes, format type:

DOD Criteria Required? Yes

SDWA Forms? ⇒
yes ☐
yes ☐
yes ☐
yes ☐
Other

State Samples Collected In?
MD ☐
NJ ☐
NY ☒
PA ☐

ALS FIELD SERVICES
☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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eder associates

ARMOUR SWIFT-ECKRICH
2001 BUTTERFIELD ROAD
DOWNERS GROVE, ILLINOIS 60515-1049

DEC 1997

TEST PIT ASSESSMENT REPORT
FALLS POULTRY
SCHOOL STREET
LIVINGSTON MANOR, NEW YORK

PROJECT #1482-26
NOVEMBER 1997

Office Location:
EDER ASSOCIATES
6 Pleasant Street
Malden, Massachusetts 02148

Office Contact:
Mark D. Johnson
(781-321-5533

Offices in New York, Wisconsin, Michigan, Georgia, Florida, New Jersey and Massachusetts

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APPENDICES

1.0 INTRODUCTION

Eder Associates (EDER) was retained by Armour Swift-Eckrich (ASE) to investigate areas of the National Foods property, known as Falls Poultry (located on School Street in Livingston Manor, New York) where anomalies were documented previously during a geophysical survey. The subject site is referenced as NYSDEC file #10332 by the Division of Underground Storage Tanks. This report details the results of a limited subsurface investigation and assessment of the property located north of the maintenance garage.

1.1 Background

ASE purchased Falls Poultry in Livingston Manor, New York in January 1993. Several tanks were removed at the site beginning in 1994 under supervision of Deloris Wehrfritz from the NYSDEC underground storage tank group. Eight tanks have been removed to date and we are working with Ms. Wehrfritz to close the impacted areas.

ASE received a Class V UIC Permit Application/Closure Request for the maintenance garage drain lines and septic tank from the U.S. EPA on January 22, 1996 to which EDER responded with a Work Plan in April 1996 which was subsequently approved and implemented. A review of the results indicated that additional soil sampling was required to define the horizontal and vertical extent of impacted soil for removal to achieve closure of the referenced area. Test pit investigation was one of the chosen methods. EDER is working with Charles Hillenbrand of the EPA Region 2 office in New York. EDER performed a test pit investigation to define the limits of impacted soil associated with the septic tank and in the process uncovered unexpected areas where debris including a crushed drum was buried. The test pit investigation was postponed due to scattered and non-homogeneous findings. A geophysical survey was then conducted to identify areas for further investigation north of the maintenance garage and in the septic tank area. The geophysical survey was performed and three anomalies were identified that merited further investigation. The further investigation resulted in this report.

1.2 Property Description

The property is located on School Street in the Village of Livingston Manor, Town of Rockland, Sullivan County, New York (Latitude 41.9049°/Longitude 74.8340°). A general site plan depicting the features of the property is presented on Figure 1. The property encompasses approximately 25.6 acres and is situated along the Willowemoc Creek. There are several free-standing buildings on the site which include the main building, a front office and security building, a weigh station booth, a truck maintenance garage, a shop building and several sheds. According to the local tax assessors office (Town of Rockland, Sullivan County), the main plant building was built in 1949 when the site was owned by Mr. Arthur Schwartz. It is unclear whether building structures were present prior to 1949.

This facility was formerly used by a series of owners as a Kosher poultry processing and packaging operation. The plant ceased operations on April 19, 1996, and no plans exist to renew operations by ASE at this location. Currently, the site is inactive. The site is fenced and is secured with a 24-hour security guard.

The property is bound to the north, south, and west by the Willowemoc Creek which flows to the north. To the east is a wooded parcel that slopes upward to the east. The site is only paved on the west side of the main plant building and in the area of the truck loading docks to the south. The majority of the remaining site surface is gravel or soil covered. A storm water retention pond is located along the eastern property line with a small tributary entering the pond to the south and exiting the pond to the north which ultimately drains to the Willowemoc Creek. The site is located within the boundaries of a 100-year flood plain. A site plan (Figure 1) is provided for reference.

Several building ruins are located on the northern portion of the site, east of the shop building. The ruins consist of cement block and concrete slabs. It is EDER's understanding that these ruins were completed buildings that burned prior to operations start-up in the 1950s. The buildings were not re-built or discarded following the fire. An area that was apparently filled with construction debris from an off-site source is located on the northern portion of the site. The construction debris appears at the surface to consist of concrete, rebar, soil and rock.

1.3 Purpose and Scope of Work

EDER prepared a scope of work to remobilize on-site and complete a test pit investigation of the anomalies identified during a geophysical survey performed on June 31 through July 2, 1997. EDER performed the survey and generated a letter report dated July 23, 1997 which is included in Appendix A. The report outlined the geophysical methodology and detailed the procedures that were followed to measure conductivity and differentiate the anomalies that were measured. Three anomalous areas were evident within the study area which were characterized by large fluctuations in at least three out of the four measured parameters. The anomalous areas are shown on Figure 2 (Geophysical Grid with anomalies). EDER prepared and conducted the following scope of work to investigate the anomalies:

- EDER mobilized an excavation contractor to dig test pits and expose the sources of the anomalies previously identified north of the maintenance garage. EDER referenced the existing staked areas to define excavation locations prior to mobilization of the excavation contractor. The anomalous areas were identified by matching the mapped anomalies to their respective location in the staked grid.

- EDER visually inspected the excavated soil and utilized an organic vapor analyzer to scan soil for volatile organics to determine if soil had been impacted by the exposed debris. EDER instructed the excavation contractor to remove and stockpile the debris adjacent to each test pit. Nineteen soil samples were obtained from the test pits and stockpiled soil combined. Two groundwater samples were obtained from the test pits located on the north east bank.

The soil and groundwater samples were submitted to Accutest Laboratories in Dayton, New Jersey for analysis of volatile and semi-volatile organics, RCRA eight metals and PCBs.

- EDER fully documented the activities with photographs and field logs of daily events.
- EDER generated this report which includes a description of activities performed, preparation of figures showing the excavation and respective soil and groundwater sampling locations and tables to summarize the analytical results. The report provides an evaluation and comparison of analytical results versus TAGM recommended cleanup standards and summarizes the conclusions and recommendations.

2.0 INVESTIGATION AND ASSESSMENT ACTIVITIES

EDER mobilized on-site on September 15, 1997 to complete a test pit investigation and assessment of three anomalies identified previously during a geophysical survey performed on June 31st through July 2nd, 1997. EDER subcontracted the excavation activities to J. Hughson Excavating, Inc. to expose the source of the anomalies and to stockpile debris and impacted soil if required.

2.1 Excavation and Assessment Methodology

EDER had laid out and staked a grid as part of the geophysical survey activities for the purpose of identifying locations of potential anomalies. The stakes were left in place once the geophysical survey was completed to allow future reference of anomalous areas. EDER mobilized on-site on September 15, 1997 and proceeded to identify the locations where anomalies were documented and marked them with stakes before the test pit excavation activities proceeded.

EDER performed a health and safety meeting prior to excavation activities to outline the precautions and methodology to be followed during all excavation activities.

The excavation contractor was then instructed to mobilize and expose the subsurface in the referenced areas. EDER visually inspected the soil and debris exposed during each advance of the excavation and utilized an organic vapor analyzer manufactured by Photovac to scan soil for volatile organics for the purpose of defining the level of safety required and to qualitatively evaluate if soil had been impacted by what was discovered.

EDER initially instructed the excavation contractor to expose the subsurface in areas where the anomalies were documented, however, EDER also directed the contractor to continue test pit activities towards the north as appropriate when debris was discovered in an unbroken chain moving in that direction. Once debris was uncovered in each of the anomalous areas, EDER then identified areas for further test pit investigation based on historic areal photographs and topographic high areas that were not consistent with the remainder of the property.

The contents and extent of each excavation was documented with photographs which are presented in Appendix B and written field logs. Each excavation was plotted on the geophysical survey map by measuring the distance to the referenced grid.

All debris that was exposed during the test pit activities was removed from the subsurface and stockpiled adjacent to its respective excavation.

2.2 Excavation Activities

The excavation contractor was instructed to mobilize and begin test pit activities at the anomaly located between grid stake O-75 and P-100 which is just north of the shop and building ruins. Solid waste consisting of plastic strapping, metal pipes and wood was encountered at approximately 3 to 5 feet below ground surface (bgs). Groundwater was encountered at 4.5 feet bgs.[1] Excavation at this test pit was completed and three soil samples were obtained. Sample S-1 was obtained on 9/15/97 from the sidewall between 3 and 4 feet bgs which exhibited a stained layer. Sample S-17 was obtained on 9/18/97. Sample S-8 was obtained from the stockpiled soil to document original soil quality. Photographs 1 through 5 depict the excavation.

The contractor was then instructed to mobilize north of D-375 to expose a mounded area to determine if additional solid waste continued from the prior test pit. The test pit north of D-375 shown on Figure 3 revealed metal pipes, a drum filled with metal nuts and bolts, a crushed tank, a metal basin, a compressed gas cylinder, wood and plastic debris. Groundwater was encountered at

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[1] As the excavation advanced toward the north, an unmarked municipal sanitary sewer line was accidentally damaged by the excavator bucket. The damaged area was exposed and over-excavated to allow replacement of one pipe section. The Town of Rockland was notified and subsequently inspected the line damage. A screen was installed on the effluent pipe to prevent gravel from entering the sewer. The area between the two pipe couplings was dug out to allow a steady flow from pipe to pipe. EDER then made arrangements to repair the line. Sample S-17 was obtained on 9/18/97 from the soil adjacent to the sewer pipe after the repair (Photograph 70) to document soil quality.

9 feet below the mounded area. The soil sample was obtained on 9/17/97 from the stockpiled soil. Photographs 6 through 12 depict the second test pit.

The excavator was then instructed to move and begin a new test pit further north at I-175 to assess the extent of buried materials. The excavation exposed auto and truck parts, packing bags, tires, an antifreeze coolant drum, crushed drums, metal, plastic and wood debris. Two soil samples (S-2 and S-10) were obtained. Sample S-2 was obtained on 9/15/97 from the north sidewall and S-8 was composited from the adjacent stockpile on 9/16/97. Test pit activities concluded for the day. Photographs 13 through 19 depict the third test pit.

The excavator was instructed to move and begin test pit activities to assess the anomaly located between L-25 and M-75 the morning of 9/16/97. Several tires, a small propane tank, crushed drums, oil filters, automobile and truck parts, equipment, metal, plastic and wood debris was exposed and stockpiled. Three soil samples were obtained on 9/16/97 at the referenced locations on Figure 3. Groundwater was encountered at approximately 7 feet bgs. Photographs 20 through 33 depict the fourth test pit.

The excavator was again moved and began test pit activities to assess the anomaly located between O-25 and G-0. Less debris was encountered in this test pit until the excavator reached G-0 moving north from P-0. Two soil samples were obtained from the test pit between O-25 and G-0. S-6 was taken from soils at the test pit bottom and S-7 was composited from the adjacent soil stockpile.

As the test pit activities progressed north of G-0, a significant amount of buried debris consisting of metal tanks, crushed drums, oil filters, equipment, auto parts, bus parts, metal, cement, wood and plastic debris was exposed and stockpiled adjacent to the hole. One soil sample S-11 was obtained on 9/16/97 from the north end of the excavation at I-0. Groundwater was encountered at approximately 5 feet bgs. Photographs 34 through 45 depict the fifth test pit. Test pit activities concluded for the day.

The excavator was moved to the location northeast of I-125 and K-130 to further assess the northeast bank on 9/17/97. A truck cab, several crushed drums, bus parts, a trailer truck diesel tank, metal equipment, a storage tank, metal, plastic and wood debris was exposed and stockpiled adjacent to the excavation. Over 25 crushed drums were removed from this excavation. This test pit exhibited the most buried debris found during the excavation . Four soil samples and one groundwater sample was obtained from this excavation. Sampling locations are identified on Figure 3. The groundwater sample was obtained from the bottom of the excavation. Photographs 46 through 56 depict the sixth test pit.

The excavator was again moved to the location north and east of I-190 to further assess the northeast bank. Additional debris was exposed and stockpiled adjacent to the excavation. The debris consisted of a truck trailer body, plastic packing bags, bus parts and pieces, blue smocks, latex gloves, crushed drums, metal, wood and plastic. One soil sample and one groundwater sample was obtained from the test pit. Photographs 57 through 63 depict the seventh test pit. Photographs 64 through 69 depict debris discovered and removed from the northeast bank from G-200 to points northeast of K-130. Test pit operations were then concluded for the day to free up the excavator to move the pipe section which would be used to repair the sewer.

Four additional test pits were excavated on 9/18/97 on both sides of the sewer line which was located by the Town on 9/17/97. The purpose of the additional test pits was to assess the center of the north portion of the property between the northwest and northeast banks where debris was discovered. The test pit located east of K-25 revealed large blocks of cement and rebar. The test pit located south of I-100 revealed soil and cobble fill with little plastic and wood debris. The test pit located at I-100 revealed plastic and wood debris in a soil fill. This test pit was excavated to a deeper depth which revealed a dark stained layer at approximately 10 feet bgs. One soil sample (S-10) was obtained from the stained layer. The last test pit was excavated at the location northwest of I-50 which again revealed soil fill and stained layer at approximately 10 feet bgs. One soil sample (S-19) was obtained from the stained layer. Test pit activities were completed and the sewer line was repaired, inspected and backfilled. Photograph 70 depicts the repaired sewer line. The test pits were left open to allow

State inspection after consultation with Armour Swift-Eckrich. EDER corded off the entire portion of property north of the shop with caution tape for safety purposes and instructed the security guards to prevent access. Photographs 71 through 73 depicts the corded off areas.

2.3 Sampling and Analysis

EDER was prepared to obtain soil and groundwater samples if the source of the anomalies was suspect. Several test pits were excavated and ultimately metal debris consisting of truck parts, bus parts, old equipment, tires, crushed drums and other debris was exposed during the investigation.

Soil samples were obtained from suspect areas in many of the test pits and from soil that was stockpiled adjacent to the test pits. Soil samples were obtained if an odor was detected, if the soil was visually impacted or discolored, and/or crushed drums were removed from a test pit.

Nineteen soil samples and two groundwater samples (obtained from excavation holes) were obtained and analyzed for volatile and semi-volatile organics, PCBs, and RCRA 8 heavy metals which are compounds consistent with the approved EPA workplan for the Garage drain line and septic tank closure project.

All soil and groundwater sampling locations are plotted for reference on Figure 3.

The soil samples were obtained using a pre-cleaned stainless steel trowel to extract the sample which was then placed in the appropriate glass sample container. Sampling personnel wore disposable latex gloves between each sampling event to avoid cross-contamination between sample locations. Sample jars were completely filled to avoid headspace, reducing the potential for VOC volatilization. Each sample container was clearly identified with the name of the project, field sample number, date and time of sampling, and the name of the sampling personnel. The field information was written in indelible ink and the label was affixed to ensure that it did not become separated from its respective container.

The properly labeled containers were placed in zip-lock bags and stored in an iced durable cooler during sampling operations. Two groundwater samples were obtained from the bottom of the excavation located northeast of grid stakes I-190 and J-125. Grab samples were obtained from groundwater that seeped into the excavation.

Samples were shipped under full EPA chain-of-custody protocol to Accutest Laboratories located in Dayton, New Jersey by Federal Express priority next day service.

3.0 FINDINGS

EDER obtained and submitted nineteen soil samples and two groundwater samples to Accutest Laboratories located in Dayton, New Jersey. The soil samples were submitted for volatile and semi-volatile organics, PCBs and RCRA 8 metals analysis by USEPA methods 8260, 8270, 8080, and 6010, respectively. Mercury was analyzed by USEPA method 7471. Groundwater was analyzed for the same compounds by USEPA methods 8260, 8270, 8080 and 200.7, respectively. Mercury was analyzed by USEPA method 245.1.

Analytical results indicate that hazardous waste was present in several locations that were assessed. The analytical results are presented in Appendix C. Compounds that were detected above the NYSDEC recommended soil cleanup objective and ambient water quality standards and guidelines are plotted on Figure 4. Compounds that were detected at concentrations less than the referenced standards are noted on Figure 4 by the category they fall in (i.e., SVOC's). The results were plotted on Figure 4 to provide a visual representation of the scattered results.

Table 1 provides a summary of the compounds detected in each sample submitted. Compounds that were detected above the NYSDEC TAGM recommended soil cleanup objective are identified by bold italic lettering. Groundwater results were compared to New York State ambient water quality standards and guidance values. Compounds detected in groundwater above the NYSDEC ambient water quality standards and guidance values are identified by bold italic lettering as well.

3.1 Soil Sample Results

Methylene chloride was detected at concentrations of less than 17.4 ppb in soil samples S-1, S-3, S-4, S-5, S-8, S-9, S-10 and S-15. Methylene chloride was not detected in the method blanks, however, the concentrations were all within a 4.5 ppb range and therefore are considered as potential laboratory

* Methylene
Chloride
Considered
Lab Mistake

carryover or error. For the purpose of this report, EDER will ignore the methylene chloride concentrations reported.

Several semi-volatile organic compounds were detected in soil sample S-1. Dibenzo(a,h)anthracene was the only compound detected at concentrations above NYSDEC recommended soil cleanup objectives [74.4 parts per billion (ppb)] in soil sample S-1.

Semi-volatile compounds (phthalates) and heavy metals were detected in soil sample S-2. Cadmium and chromium were both detected above NYSDEC cleanup criteria at concentrations of 2 parts per million (ppm) and 28 ppm, respectively.

Lead was detected in soil sample S-3 at a concentration of 286 ppm, above reported background concentrations for rural areas.

Chromium was detected in soil sample S-4 at a concentration of 11.3 again higher than the NYSDEC cleanup objective.

Only one semi-volatile compound was detected in soil samples S-5, S-6, S-9 and S-14 which were all less than NYSDEC cleanup objectives. Soil samples S-7, S-8 and S-17 were the only samples where no compounds were detected (methylene chloride in S-8 excluded).

Three semi-volatile compounds were detected in soil sample S-10 which were reported at concentrations less than NYSDEC cleanup objectives.

Several semi-volatile compounds were detected in soil sample S-11. Benzo(a)pyrene was detected at a concentration of 77.2 ppb which is higher than the NYSDEC cleanup objective of 61 ppb.

Chromium and lead were detected at concentrations of 10.4 ppm and 64.8 ppm which are above the NYSDEC cleanup objectives and higher than the background concentrations reported for rural areas.

Several semi-volatile compounds were detected in soil sample S-12 including four compounds (benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene) with concentrations higher than the NYSDEC cleanup objectives. Lead was also detected at 55 ppm which is higher than concentrations considered to be background at this site.

Three semi-volatile compounds were detected at concentrations less than NYSDEC cleanup objectives and one PCB compound was also detected in soil sample S-13.

Several semi-volatile compounds and one volatile compound was detected in soil sample S-15 at concentrations less than NYSDEC cleanup objectives. Chromium and lead were detected at 17.4 and 170 ppm, respectively, which are both over the NYSDEC cleanup objective and reported background concentrations for rural areas.

One semi-volatile and two volatile compounds were detected at concentrations less than NYSDEC cleanup objectives in soil sample S-16.

Several volatile organic compounds were detected in soil sample S-18 including 4-methyl-2-pentanone at a concentration of 71.7 ppb which is higher than the NYSDEC cleanup objective. Lead was detected at a concentration of 274 ppm which is significantly higher than background levels reported for rural areas. This soil sample required significant dilution due to its petroleum hydrocarbon content, so a decision was made to analyze the sample for total petroleum hydrocarbons (TPH).

TPH was reported at a concentration of 52,800 ppm. Two semi-volatile compounds were detected at concentrations less than the NYSDEC cleanup objectives in soil sample S-19.

3.2 Groundwater Sample Results

Analytical results for groundwater samples submitted indicate that groundwater has been impacted by heavy metals at concentrations above the NYSDEC ambient water quality standards and guidance values.

Arsenic and lead were reported at concentrations of 75 and 124 ppb, respectively, in groundwater sample G-1. The standard for both arsenic and lead are 25 ppb.

Lead was detected at a concentration of 28.9 ppb in groundwater sample GW-2.

3.3 Conclusions

A thorough review of the results indicate that hazardous materials was buried in several locations north of the shop/building ruins. Virtually all areas investigated during the test pit assessment contained solid waste of some kind which is depicted in the photographs in Appendix B. It is not known whether the hazardous materials identified in both soil and groundwater originated from the crushed drums discovered during the assessment or from the other debris removed during the excavation. Burial activities on the northeast bank were dated after August 1983 based on several pieces of evidence that were uncovered during the assessment activities such as hand dated pH test kits, a trailer license plate, the manufacturer's identification plate from the diesel fuel tank from a trailer truck and labels on 5 gallon containers, crushed drums and packing bags. All the debris discovered during the assessment appears to have been buried prior to the acquisition of Hebrew National by Armour Swift-Eckrich based on the evidence found and interviews with past employees.

Several locations exist where semi-volatile compounds were detected above the State's soil cleanup objectives. Only one location was identified with a volatile organic compound exceeding the State's soil cleanup objectives. Several locations were identified with heavy metal concentrations that exceed the State's soil cleanup objective. Both groundwater samples contained two or less heavy metal compounds that exceed the State's ambient water quality standards and guideline values.

4.0 RECOMMENDATIONS

EDER recommends that the debris be segregated and stockpiled for future transport to the appropriate recycling facility. Additional assessment in the form of test pits, soil sampling and groundwater sampling is recommended based on NYSDEC guidance. The installation of perimeter groundwater monitoring wells should be installed around the entire site to evaluate the water quality on an upgradient-downgradient basis and to determine if the exceedances of lead and arsenic in groundwater from the northeast bank are localized or represent a site wide condition. EDER further recommends that Armour Swift-Eckrich meet with EDER and the NYSDEC to discuss the results, our recommendations and agree to a plan to further assess and abate the impacted areas.

NATIONAL FOODS
LIVINGSTON MANOR, NEW YORK

TABLE 1

SOIL AND GROUNDWATER ANALYTICAL RESULTS

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
S-1	Methylene chloride (12.9)*		Benzo(a)pyrene (35.9)	.061				
			Benzo(b)fluoranthene (48.6)	1.1				
			Benzo(g,h,i)perylene (115)	50				
			Benzo(k)fluoranthene (56.0)	1.1				
			Dibenzo(a,h)anthracene (74.4)	.014				
			Di-n-octyl phthalate (45.1)	50				
			Indeno (1,2,3-cd)pyrene (89.5)	3.2				
S-2			Butyl benzyl phthalate (209)	50	***Cadmium (2.0)***	1.0		
			Di-n-butyl phthalate (64.9)	8.1	***Chromium (28.0)***	10		
			bis(2-Ethylhexyl)phthalate (211)	50				
S-3	Methylene chloride (16.2)*	.100			***Lead (286)***	**		

NOTES;
RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.
* - Not Detected in Method Blanks.
** - Background levels range from 4-61 ppm in rural areas.
*** - TPH analyzed due to high detection limits for semi-volatile analysis.
NR - Not Reported.
Concentrations detected above the NYSDEC TAGM limits are bold/italics.

Table 1 Continued . . .

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
S-4	Methylene chloride (17.4)*	.100			***Chromium (11.3)***	10		
S-5	Methylene chloride (15.0)*	.100	Phenanthrene (26.9)	50				
S-6			bis(2-Ethylhexyl)phthalate (152)	50				
S-8	Methylene chloride (13.1)*	.100						
S-9	Methylene chloride (13.1)*	.100	Fluoranthene (29.9)	50				
S-10	Methylene chloride (14.1)*	.100	Fluoranthene (41.3)	50				
			Phenanthrene (20.4)	50				
			Pyrene (57.6)	50				
S-11			Benzo(a)anthracene (80.9)	.224	***Chromium (10.4)***	10		
			Benzo(a)pyrene (77.2)	.061	***Lead (64.8)***	**		
			Benzo(b)fluoranthene (76.9)	1.1				
			Benzo(g,h,i)perylene (62.0)	50				
			Benzo(k)fluoranthene (72.1)	1.1				
			Chrysene (98.7)	.400				

NOTES;

RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.

* - Not Detected in Method Blanks.

** - Background levels range from 4-61 ppm in rural areas.

*** - TPH analyzed due to high detection limits for semi-volatile analysis.

NR - Not Reported.

Concentrations detected above the NYSDEC TAGM limits are bold/italics.

Table 1 Continued . . .

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
			Fluoranthene (157)	50				
			Indeno(1,2,3-cd)pyrene (44.8)	3.2				
			Phenanthrene (65.1)	50				
			Pyrene (169)	50				
S-12			Acenaphthene (39.4)	50	***Lead (55.0)***	**		
			Anthracene (224)	50				
			Benzo(a)anthracene (867)	.224				
			Benzo(a)pyrene (842)	.061				
			Benzo(b)fluoranthene (803)	1.1				
			Benzo(g,h,i)perylene (559)	50				
			Benzo(k)fluoranthene (704)	1.1				
			Chrysene (1010)	.400				
			Dibenzo(a,h)anthracene (286)	.014				
			bis(2-Ethylhexyl)phthalate (435)	50				

NOTES;
RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.
* - Not Detected in Method Blanks.
** - Background levels range from 4-61 ppm in rural areas.
*** - TPH analyzed due to high detection limits for semi-volatile analysis.
NR - Not Reported.
Concentrations detected above the NYSDEC TAGM limits are bold/italics.

Table 1 Continued . . .

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
			Fluoranthene (2170)	50				
			Fluorene (54.7)	50				
			Indeno(1,2,3-cd)pyrene (536)	3.2				
			Phenanthrene (851)	50				
			Pyrene (1780)	50				
S-13			Fluoranthene (36.6)	50			Aroclor 1016 (308)(ppb)	10 ppm
			Phenanthrene (23.4)	50				
			Pyrene (42.9)	50				
S-14			Fluoranthene (31.2)	50				
S-15	Methylene chloride (13.9)	.100	Benzo(a)anthracene (41.0)	.224	***Chromium (17.4)***	10		
	Trichlorofluoromethane (4.1)	6	Benzo(a)pyrene (35.5)	.061	***Lead (170)***	**		
			Benzo(b)fluoranthene (37.2)	1.1				
			Benzo(g,h,i)perylene (36.8)	50				
			Benzo(k)fluoranthene (34.7)	1.1				

NOTES;

RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.

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Concentrations detected above the NYSDEC TAGM limits are bold/italics.

Table 1 Continued . . .

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
			Butyl benzyl phthalate (32.8)	50				
			Chrysene (46.4)	.400				
			Fluoranthene (65.1)	50				
			Indeno(1,2,3-cd)pyrene (24.0)	3.2				
			Phenanthrene (20.8)	50				
			Pyrene (63.9)	50				
S-16	1,2,4-Trimethylbenzene (0.87)	NR	bis(2-Ethylhexyl)phthalate (1070)	50				
	Trichlorofluoromethane (2.1)	NR						
S-18	n-Butylbenzene (1.5)	NR	TPH = 52,800 ppm***		***Lead (274)***	**		
	Ethylbenzene (1.3)	5.5						
	4-Methyl-2-pentanone (71.7)	.010						
	Naphthalene (3.4)	13						
	1,2,4-Trimethylbenzene (5.2)	NR						
	Toluene (100)	1.5						

NOTES;

RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.

* - Not Detected in Method Blanks.

** - Background levels range from 4-61 ppm in rural areas.

*** - TPH analyzed due to high detection limits for semi-volatile analysis.

NR - Not Reported.

Concentrations detected above the NYSDEC TAGM limits are bold/italics.

Table 1 Continued . . .

Sample No.	VOCs 8260 (ppb)	RSCO (ppm)	SVOCs 8270 (ppb)	RSCO (ppm)	RCRA Eight Metals (ppm)	RSCO (ppm)	PCBs (ppb)	RSCO (ppm)
	Trichlorofluoromethane (2.1)	NR						
	Xylene (5.8)	1.2						
S-19			Di-n-butyl phthalate (74.2)	8.1				
			Fluoranthene (18.2)	50				
GW-1					***Arsenic (25.0)(ppb)***	25 ppb		
					Lead (124)(ppb)	25 ppb		
GW-2					***Lead (28.9)(ppb)***	25 ppb		

<u>NOTES</u>;

RSCO - Recommended Soil Cleanup Objective per NYSDEC TAGM.
* - Not Detected in Method Blanks.
** - Background levels range from 4-61 ppm in rural areas.
*** - TPH analyzed due to high detection limits for semi-volatile analysis.
NR - Not Reported.
ntrations detected above the NYSDEC TAGM limits are bold/italics.

APPENDIX A

GEOPHYSICAL SURVEY REPORT

eder associates
environmental scientists and engineers

OFFICES:
Locust Valley, NY
Madison, WI
Ann Arbor, MI
Augusta, GA
Jacksonville, FL
Trenton, NJ
Tampa, FL
Stoneham, MA

July 23, 1997
File #1482-25

Paul Halberstadt
Director of Environmental Engineering
Armour Swift-Eckrich
2001 Butterfield Road
Downers Grove, Illinois 60515

Re: Geophysical Survey in the Area of Suspected
Dumping North of the Maintenance Garage
Falls Poultry Facility
School Street, Livingston Manor, New York

Dear Mr. Halberstadt:

Eder Associates (EDER) was retained by the Armor Swift-Eckrich to perform a geophysical electromagnetic survey at the Falls Poultry Facility. The purpose of the survey was to evaluate if buried debris could be present in the northern portion of the site. The survey was conducted from June 31 through July 2, 1997. Three suspected dump areas were identified based on the survey results. The locations of the suspected areas are shown on Drawing 1.

Introduction

EDER was retained by Armour Swift Eckrich (ASE) to define the horizontal and vertical extent of contaminants associated with the maintenance garage drain line and septic system project that was driven by an EPA Class V injection well status order. EDER supervised the digging of test pits adjacent to the garage and obtained soil samples for analysis. EDER discovered areas just north (approximately 50-75 feet) of the garage where dumping had occurred, during the test pit field activities. Crushed drums, automotive parts, cinders, a refrigerator and other debris was exposed during the test pit activities. EDER was requested to prepare a proposal to perform this geophysical survey when ASE reviewed the test pit pictures and results. The decision was made to perform the survey to evaluate if any other dump areas existed. EDER reviewed site history, aerial photographs and the existing topographic map of the site prior to the survey to determine where to focus data collection efforts.

EDER utilized electromagnetic survey EM31 equipment which was considered more efficient and suitable for the site field conditions.

EM31 survey allows the operator to define subsurface disturbances especially associated with the changes in electromagnetic conductivity, which is usually the case when buried drums, cans, and other containers must be located. The electromagnetic conductivity is measured using an inductive technique when measurements are taken without any electrodes and ground contact. The application of the EM31 equipment has a number of advantages such as high speed survey, continuous readout

Continued . . .

while traversing survey areas and high sensitivity to small changes in electromagnetic conductivity. The effective depth of exploration is about 15 to 18 feet which is a few feet more than an anticipated depth for disposed materials.

EM31 Principal of Operation
The basic principle of the EM31 operations is simple. A transmitter coil located at one end of the instrument induces circular eddy current loops in the earth. The magnitude of these current loops is directly proportional to the terrain conductivity in the vicinity of that loop. Current loops generate a magnetic field which is in turn proportional to the value of the current flowing within the loop. This magnetic field is intercepted by the receiver coil installed at the other side of the instrument and the output voltage which is linearly related to the terrain conductivity is recorded.

The EM31 instrument measures two components of the induced electromagnetic field. The first component is directly related to the ground conductivity. The second, inphase component represents a ratio between the primary and secondary magnetic fields and in a number of cases is more sensitive to the buried objects than the ground conductivity component. On the other hand, the ground conductivity component is more sensitive to long, extended targets (e.g. pipes).

The instrument can be operated in either vertical or horizontal dipole modes. The effective depth of exploration for the vertical and horizontal modes is 18 and 9 feet, respectively. Because the anticipated depth of buried objects varies from a few feet to 10-15 feet the measurements were taken in the vertical dipole mode.

The instrument response is affected by the relative position between the buried object and transmitter and receiver coils. Two measurements usually are taken at each measurement station, one with the instrument aligned along the profile and the other perpendicular the profile. The instrument response is also affected by the height from the ground. To eliminate this effect all measurements were taken at ground level.

The underground conductors such as large pipes, drums, storage containers are recognized by the large meter fluctuations which occur within a short distance. When approaching a buried object the meter reading first increases and then sharply drops to a negative reading. The negative peak ideally indicates the location of a pipe or a drum. In the case of multiple buried objects, the location of each object may not be easily determined, but the area would by characterized by large meter fluctuations.

Grid System
The profiles and measurement station locations are shown on Drawing 1. The survey encompasses a large area to the north of the maintenance garage with profiles from G through Q running from west to east. Profiles A, B, C, and CC are located to the east of the garage, profile D runs along the dirt road on the eastern boundary of the site, and profile R crosses the parking lot to the south of the Chicken Storage Shed. The 50 by 50 foot grid was measured and staked out in the area north of the

Continued . . .

garage on June 31 prior to conducting the EM survey. Profiles A, B, C, and D were also staked ever 50 feet. The measurements along each profile were taken every 25 feet, with a closer spacing in th anomalous areas.

Survey Results

Four measurements were taken at each measurement station. Both ground conductivity and inphas components were measured along and perpendicular to the profile in order to collect sufficient da for more reliable interpretation. Raw data along with the field comments are presented in Appendi 1. The plots with isocontour lines for each parameter are shown on Figures 1 through 4. The resul show a good coherency of data that reveals definite background levels and anomalous areas.

Three anomalous areas are evident in the study area. The anomalous areas are characterized by larg fluctuation in at least three out of four measured parameters. One area of suspected dumping is four around stations O125 and P100, which is approximately 10 to 25 feet north of the original proce building (destroyed by fire). This area is characterized by sharp changes in both ground conductivi and inphase components over a short distance, which is a typical response over drums, pipes or oth conductors buried below the ground. Two more areas were delineated in the vicinity of measureme stations G0, P0, O25- and L75-, L50-, M75-, respectively. The local anomalies were also four between stations M0 and M25-and within a few feet from station CC75. The areas of suspecte dumping are shown on Drawing 1.

A few anomalous readings found along the wetland and creek were disregarded because they a likely reflect changes in ground conductivity and/or topography and are not related to buried objec

Recommendations

EDER has evaluated the information presented and recommends that ASE consider excavating t three identified anomalous areas to visually inspect the debris and characterize if soil a groundwater has been impacted by potential dumping.

Sincerely,

EDER ASSOCIATES

Mark Ryvkin
Senior Hydrogeologist

Mark D. Johnson
Senior Hydrogeologist
MR/MDJ/mw
cc: T. Stachura

MW60

Contour Map of Conductivity Measured Parallel to Profiles
Armor-Swift
Livingston Manor, New York

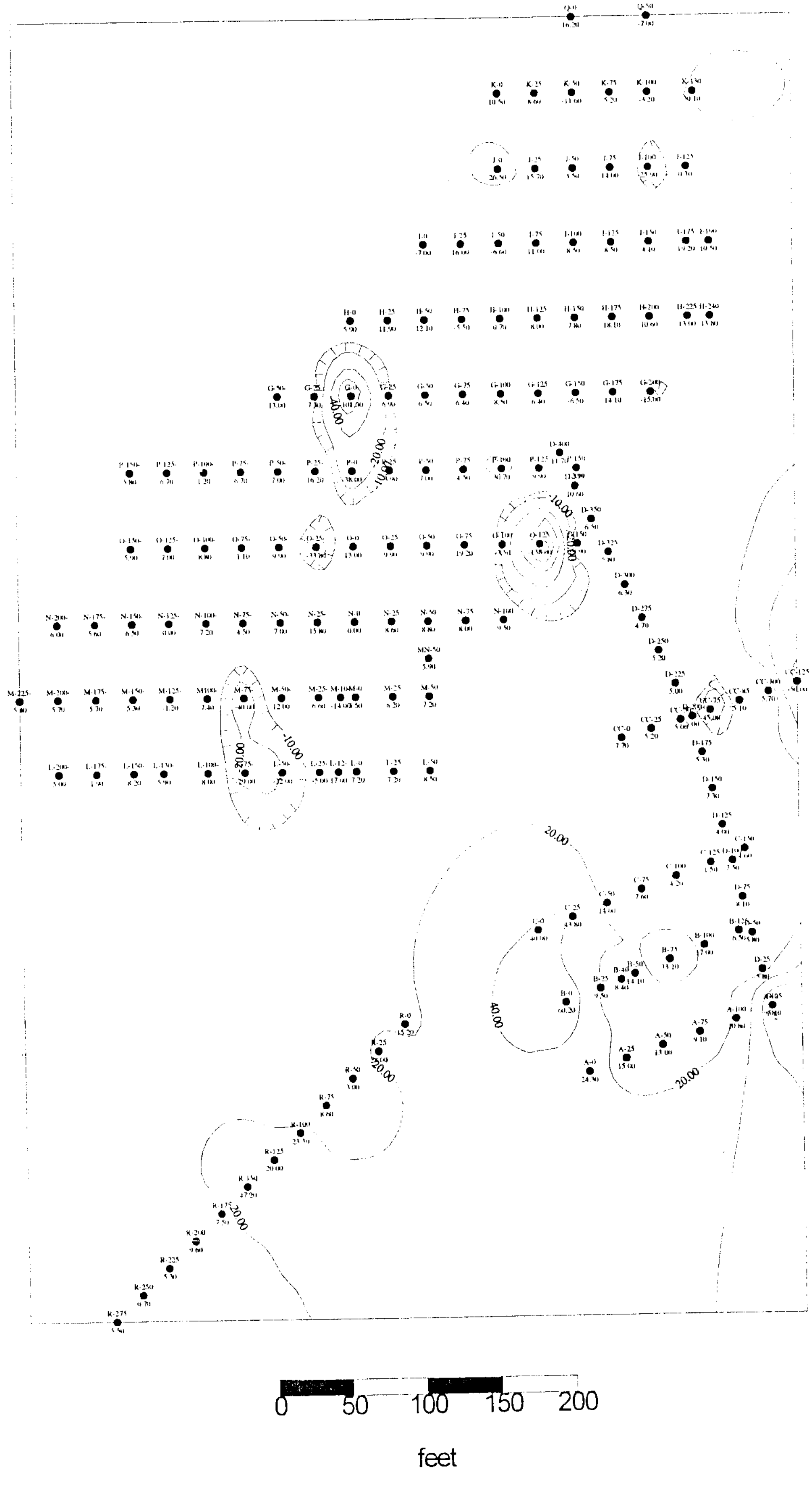


Figure 1

Contour Map of Conductivity Measured Perpendicular to Profiles
Armor-Swift
Livingston Manor, New York

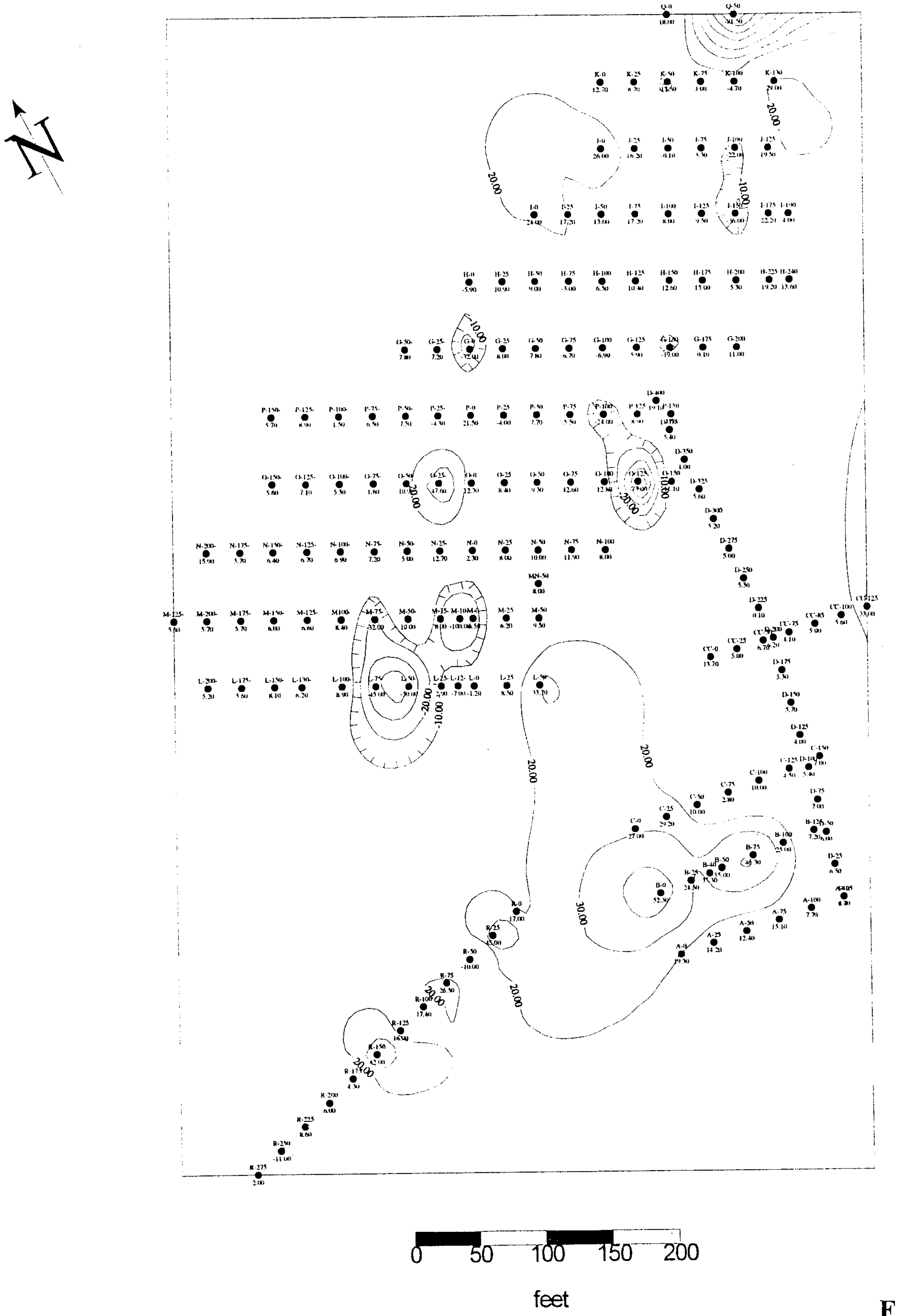


Figure 2

Contour Map of Inphase Measured Parallel to Profiles
Armor-Swift
Livingston Manor, New York

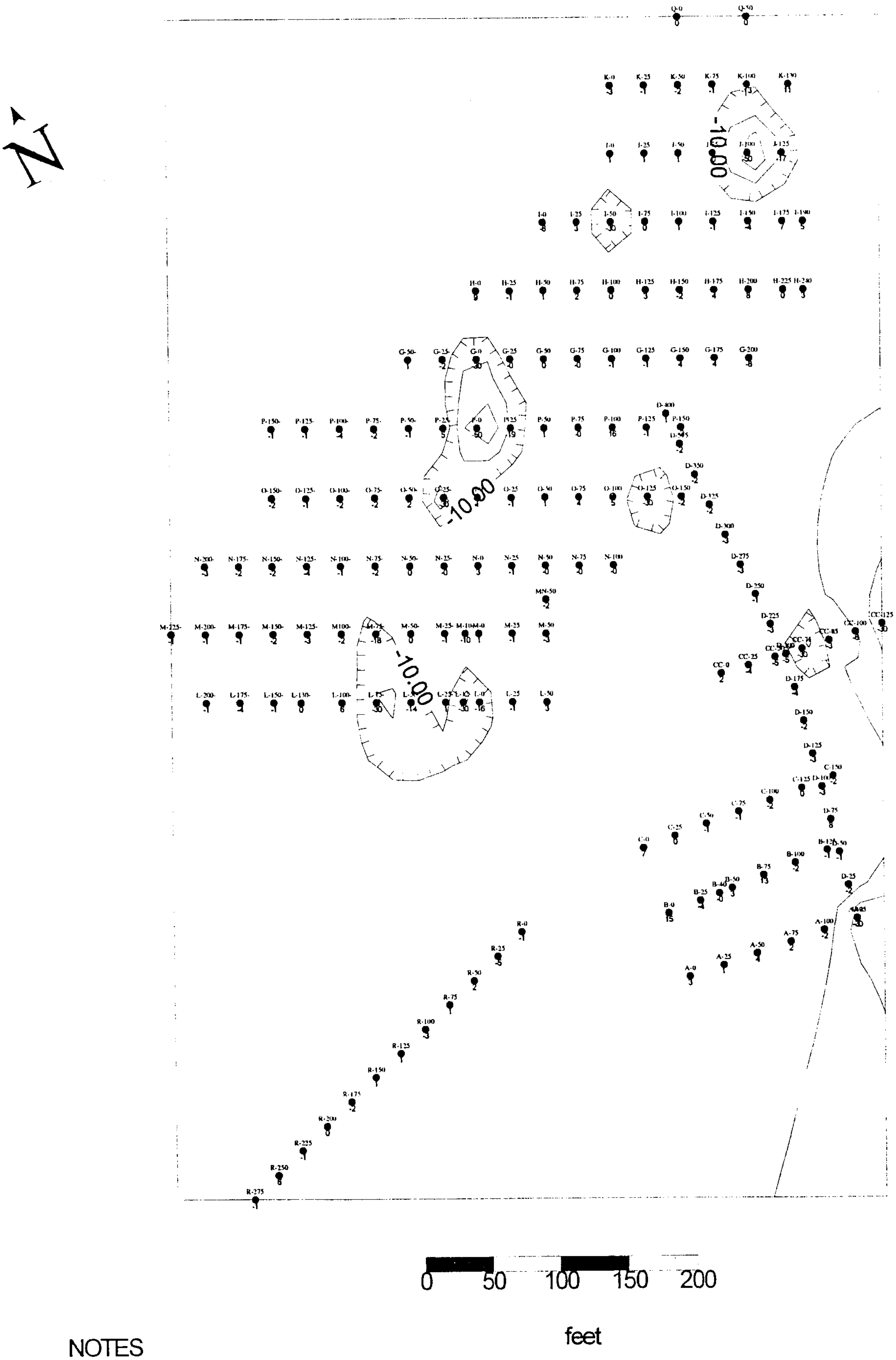
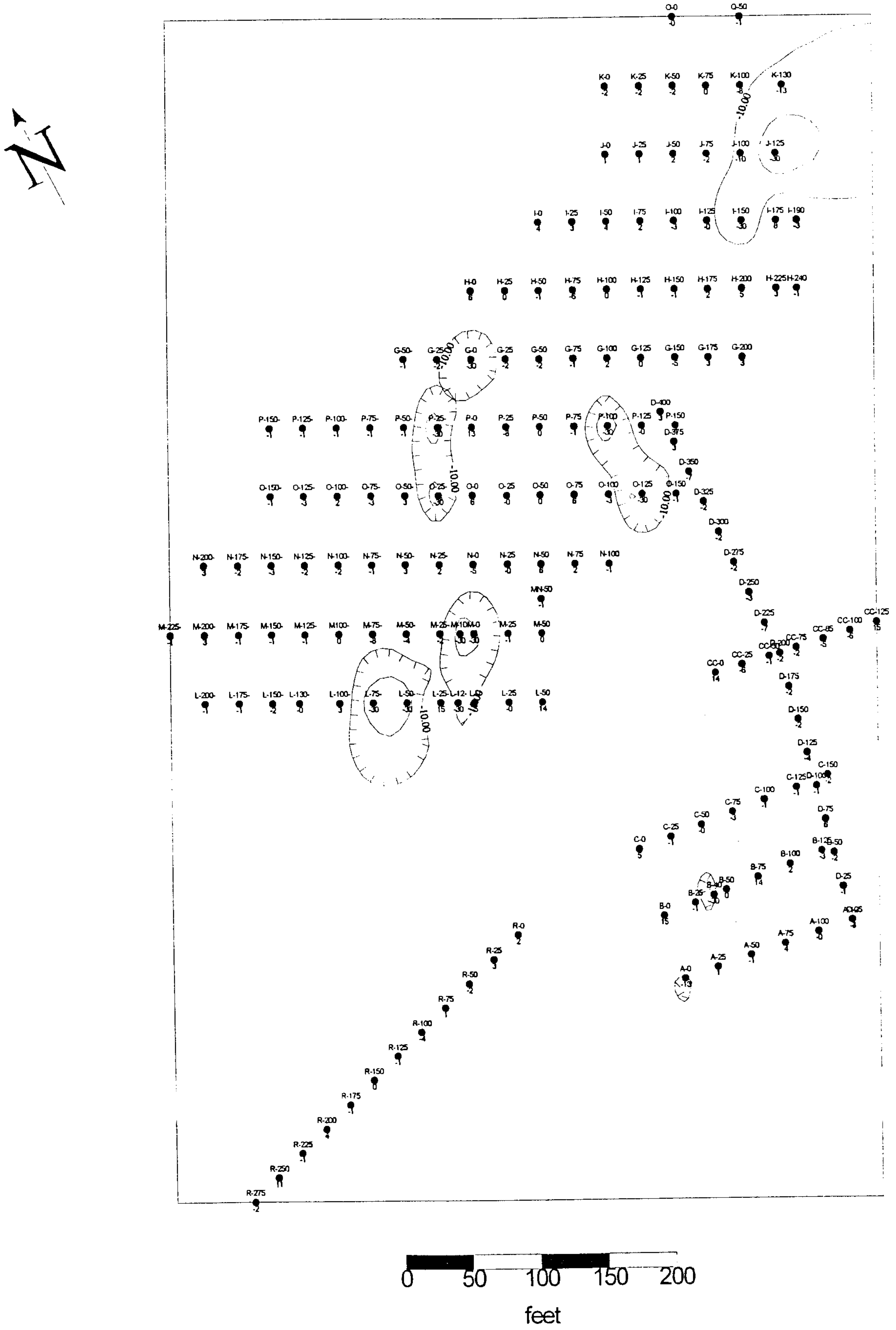


Figure 3

NOTES

* The off scale reading is shown as -30.

Contour Map of In-Phase Measured Perpendicular to Profiles
Armor-Swift
Livingston Manor, New York



NOTES
* The off scale reading is shown as -30.

Figure 4

Appendix A

Geophysical Survey Results
Armour-Swift Ekrich
Livingston Manor - EM survey
July 1 & 2, 1997

Profile Field Designation X (1) (feet) Y (1) (feet) Cond_a Cond_p Inph_a Inph_p Comments / Field Observations

Profile Field Designation	X (1) (feet)	Y (1) (feet)	Cond_a	Cond_p	Inph_a	Inph_p	Comments / Field Observations
Q-0	150	600	16.2	18	0.1	-0.15	Wetlands within 20 feet to N
Q-50	200	600	-7	-81.5	0.15	-1	
K-0	100	550	10.5	12.7	-3.4	-1.5	
K-25	125	550	8.6	8.7	-1	-1.6	
K-50	150	550	-11.6	-17.5	-2.1	-2.1	
K-75	175	550	-5.2	3	-0.5	0	
K-100	200	550	-3.2	-4.7	-13.2	-8.2	
K-130	230	550	30.1	29	11.2	-13.4	
J-0	100	500	26.5	26	0.5	0.5	Pipes in cement near station, move 10 feet W
J-25	125	500	15.7	16.2	0.7	1.2	
J-50	150	500	3.5	-0.1	0.5	1.6	
J-75	175	500	14	3.3	-0.2	-1.8	
J-100	200	500	-25.9	-22	-1sc	-10.2	
J-125	225	500	0.3	19.5	-16.8	-1sc	
I-0	50	450	-7	24	-6.2	4.4	Edge of higher ground, cement block, rusted metal can
I-25	75	450	16	17.2	3.3	2.5	
I-50	100	450	-6.6	13	-1sc	3.8	
I-75	125	450	11	17.2	0.05	1.82	
I-100	150	450	8.5	8	0.9	-2.63	Asphalt pile within 10 feet to E
I-125	175	450	8.5	9.5	-0.5	-0.1	Steel pipe on ground, move 20 feet to N
I-150	200	450	4.1	-36	-4	-1sc	
I-175	225	450	19.2	22.2	7	7.5	
I-190	240	450	10.5	4	4.9	-2.5	Edge of high ground, some piles located 20 feet further into wetland
H-0	0	400	5.9	-5.9	9.2	5.8	Surrounded by cement debri
H-25	25	400	11.9	10.9	-0.5	0.3	
H-50	50	400	12.1	9	1	-0.5	
H-75	75	400	-5.5	-3	2.1	-5.8	Piles, move to flatter ground
H-100	100	400	0.7	6.5	0.4	0.1	
H-125	125	400	8	10.4	2.9	-1.1	Move 20 feet N of metal pipes
H-150	150	400	7.8	12.6	-2	-1.1	
H-175	175	400	18.1	15	3.7	2.4	Ground slopes upward
H-200	200	400	10.6	5.3	8.3	5.3	
H-225	225	400	13	19.2	0.1	2.6	
H-240	240	400	13.8	13.6	2.7	-0.8	
G-50-	-50	350	13	7.8	1.1	-1	
G-25-	-25	350	7.3	7.2	-2	-2.4	
G-0	0	350	-101	-32	-1sc	-1sc	
G-25	25	350	6.9	8	-0.4	-1.5	
G-50	50	350	6.5	7.8	0.1	-2.3	
G-75	75	350	6.4	6.7	-0.4	-0.5	
G-100	100	350	8.5	-6.9	-0.5	2	
G-125	125	350	6.4	5.9	-0.7	0.01	
G-150	150	350	-6.5	-19	4.1	-5	
G-175	175	350	14.1	0.1	3.6	2.5	Slopes downward to wetland to S
G-200	200	350	-15	11	-8.3	2.9	Slopes downware to S and E

Appendix A

Geophysical Survey Results
Armour-Swift Ekrich
Livingston Manor - EM survey
July 1 & 2, 1997

Profile Field Designation	X (1) (feet)	Y (1) (feet)	Cond_a	Cond_p	Inph_a	Inph_p	Comments / Field Observations
P-150-	-150	300	5.8	5.7	-1.1	-1.3	Edge of creek
P-125-	-125	300	6.7	8.9	-0.6	-1	
P-100-	-100	300	1.2	1.5	-4.3	-1.3	
P-75-	-75	300	6.7	6.5	-1.7	-1.3	
P-50-	-50	300	7	7.5	-0.8	-1.3	
P-25-	-25	300	16.2	-4.3	5	-1sc	
P-0	0	300	-38	21.5	-1sc	13	
P-25	25	300	-3.9	-4	-18.7	-8	
P-50	50	300	7	7.7	0.7	0.4	Large pile of cinder blocks to E
P-75	75	300	4.5	5.5	-0.4	-0.5	
P-100	100	300	30.7	-24	15.5	-1sc	Under tree, approx. 10 feet from D-400, marshy area; local high negative, remeasure at -24.
P-100	100	300	0.1	-110	6.7	-1sc	collected 7/2
P-125	125	300	9.9	8.9	-1	-0.2	collected 7/2
P-150	150	300	12.9	3.6	-2	-0.5	collected 7/2
D-400	100		11.7	19.1	1.2	2.7	*Location near P-100, not same x coord. collected 7/1
O-150-	-150	250	5.9	5.6	-1.5	-1.4	
O-125-	-125	250	7	7.1	-0.8	-2.8	
O-100-	-100	250	8.8	5.3	-1.9	1.8	
O-75-	-75	250	-1.1	1.6	-1.9	-2.6	Asphalt on surface.
O-50-	-50	250	9.9	10.9	1.7	3.2	
O-25-	-25	250	-33.8	47.6	-1sc	-1sc	
O-0	0	250	13	12.3	1.2	5.5	
O-25	25	250	9.9	8.4	-0.5	-0.1	
O-50	50	250	9.9	9.3	0.5	0.2	Manholes 5 feet S; move measurement 10 feet N
O-75	75	250	19.2	12.6	4.4	5.9	Disturbed area
O-100	100	250	-16	49	-16.5	1	collected 7/1; N of mark at end of road; N of cement & wood debri, some local anomalies
O-100	100	250	-3.5	12.8	5	-3.4	collected 7/2
O-125	125	250	-138	-73	-1sc	-1sc	collected 7/2, 10 feet N of trees and large debri pile, values positive 10 feet N & S, area in road and N of road: high negative anomaly
O-150	150	250	10.9	11.1	-2.3	-0.6	collected 7/2, more normal values
N-200-	-200	200	6	15.9	-3.1	2.8	N-100- to N-200-, surface sand & silt, appears native;
N-175-	-175	200	5.6	5.7	-1.6	-1.6	N-200- on edge of creek
N-150-	-150	200	6.5	6.4	-2.3	-2.9	
N-125-	-125	200	0	6.7	-3.7	-2	
N-100-	-100	200	7.2	6.9	-1.3	-2.1	
N-75-	-75	200	4.5	7.2	-2.2	-1	Metal plate between N-75- and N-100-
N-50-	-50	200	7	5	0.1	3.3	
N-25-	-25	200	15.8	12.7	-0.3	1.7	Flat, anomalous reading, may be wet grass; 10 feet SE of
N-0	0	200	0	2.3	3	-5.2	N-25-, perp. readings show feature
N-25	25	200	8.6	8	-0.9	-0.4	
N-50	50	200	8.8	10	-0.4	5.7	W of loading dock, horizontal anomaly 2 feet E of N-50 (pipeline?)
N-75	75	200	8	11.9	-0.1	1.9	On W side of loading dock slab
N-100	100	200	9.5	8	-0.1	-1.1	On E side of loading dock slab

Appendix A

Geophysical Survey Results
Armour-Swift Ekrich
Livingston Manor - EM survey
July 1 & 2, 1997

Profile Field Designation	X (1) (feet)	Y (1) (feet)	Cond_a	Cond_p	Inph_a	Inph_p	Comments / Field Observations
M-225-	-225	150	5.4	5.6	-0.9	-1.3	
M-200-	-200	150	5.7	5.7	-1.4	2.8	
M-175-	-175	150	5.7	5.7	-1.4	-1.4	
M-150-	-150	150	5.3	6	-1.6	-1.2	
M-125-	-125	150	-1.2	6.6	-2.8	-1.3	
M100-	-100	150	7.4	8.4	-2.3	0.2	
M-100-	-100	150	7	24.5	-0.7	15	Measurement over monitoring well
M-75-	-75	150	-40	-32	-18	-8	Rusted drum on mound to N; large changes over short distances, anomalous
M-50-	-50	150	12	10	0.2	-3.5	Near monitoring well
M-25-	-25	150	6.6	8	-1	-1.5	
M-10-	-10	150	-14	-100	-9.5	-1sc	High readings, local anomaly
M-0	0	150	3.5	-6.5	0.6	-1sc	Perpendicular readings anomalous
M-25	25	150	6.2	6.2	-1.3	-1.2	
M-50	50	150	7.2	9.5	-2.5	0.4	
MN-50	50	175	5.9	8	-1.7	-1.2	
L-200-	-200	100	5	5.2	-1.3	-1.4	L-200- to L-150-: appears to be natural ground
L-175-	-175	100	1.9	5.6	-4.1	-1.4	
L-150-	-150	100	8.2	8.1	-1	-2	
L-130-	-130	100	5.9	6.2	0.2	-0.1	
L-100-	-100	100	8	8.9	6.2	2.5	disturbed area, higher elevation between L-100- and L-50-,
L-75-	-75	100	-29	-45	-1sc	-1sc	drum near L-100-
L-50-	-50	100	-22	-50	-14	-1sc	disturbed area between
L-25-	-25	100	-5	2.9	0.9	15.2	disturbed area
L-12-	-12	100	17	-7	-1sc	-1sc	disturbed area
L-0	0	100	-7.2	-1.2	-16	-5.3	
L-25	25	100	7.2	8.5	-0.7	-0.3	
L-50	50	100	8.5	33.7	3.3	13.6	Near (within 10 feet) N corner of building
A-0	153	-102	24.3	19.3	3.2	-12.8	30 feet N of power line
A-25	177.6	-93.6	15	14.2	0.9	1	Directly beneath power line
A-50	202.2	-85.2	13	12.4	3.8	-0.5	Directly beneath power line
A-75	226.8	-76.8	9.1	15.1	2.4	4.3	Within 10 feet of 55 gal. drums
A-100	251.4	-68.4	10.8	7.7	-2	-0.4	SE of shed, on concrete pad, 10 feet N of power line
A-125	276	-60	95.1	9.4	-1sc	-4	Directly under power line, appears live
B-0	138	-56	60.2	52.3	14.5	14.8	10 feet E of building (aluminum siding)
B-25	161.2	-46.8	9.5	24.5	-4	-1.3	
B-40	175.1	-41.3	8.4	35.3	-0.2	-1sc	On concrete pad, electric lines coming out (pump?)
B-50	184.4	-37.6	14.1	35	3.3	0.2	10 feet E of Shed
B-75	207.6	-28.4	33.1	46.3	12.8	13.9	5 feet W of Shed
B-100	230.8	-19.2	17	25	-1.6	1.8	Higher ground between 2 sheds
B-125	254	-10	6.5	7.2	-0.6	-2.5	Electric line midway between B-100 & B-125, may be dead
C-0	120	-8	40	27	6.6	4.5	
C-25	143.2	0.83	43.8	29.2	0.2	-0.6	Local negative anomaly, approx. 10-15 feet N
C-50	166.3	9.66	14	10	-0.8	-0.1	
C-75	189.5	18.49	7.6	2.8	-1.2	-3	On concrete pad
C-100	212.6	27.32	4.2	10	-2.1	-1	
C-125	235.8	36.15	1.5	4.5	0.4	-0.5	
C-150	259	45	4.6	7	-2	-2.2	

M:\HYDRO\PROJECTS\1400'S\1482\1482-25\ARM0701.WB2 23-Jul-97

Appendix A

Geophysical Survey Results
Armour-Swift Ekrich
Livingston Manor - EM survey
July 1 & 2, 1997

Profile Field Designation	X (1) (feet)	Y (1) (feet)	Cond_a	Cond_p	Inph_a	Inph_p	Comments / Field Observations
							CC: E-W line through D-200 (D-200=CC-50)
CC-0	178	120	7.7	13.7	1.8	13.6	40-50 feet E of old cement shed (burned out)
CC-25	197.7	126	5.2	5	-4.4	-5.9	
CC-50	217.3	132	5	6.7	-5.7	-1	
CC-75	237	138	-45	4.1	-1sc	-2	Nothing on surface, anomaly in one direction
CC-85	256.6	144	5.1	5	-3	-4.7	Nothing, CC-75 anomaly local
CC-100	276.3	150	5.7	5.6	-5.5	-6	
CC-125	296	156	-1sc	33	-1sc	15	directly over old well,observe piping, pump line
D-0	276	-60	9.8	6.7	-1.1	-3	Readings same direction as other lines: II profiles E-W,
D-25	269.6	-35.8	5.8	6.5	-1.8	-1.4	perp. profiles N-S
D-50	263.3	-11.5	5.8	6	-0.5	-2.3	
D-75	256.9	12.75	8.1	7	6.2	5.6	2 feet E of concrete shed, some metal bars, aluminum
D-100	250.5	37	7.5	5.4	-3	-1.4	
D-125	244.1	61.25	4	4	-3	-4	
D-150	237.8	85.5	7.3	5.7	-2	-2.3	
D-175	231.4	109.8	5.3	5.3	-3.6	-2.2	
D-200	225	134	5	6.2	-4.7	-1.6	
D-225	214.1	156	5	0.1	-2.7	-6.8	
D-250	203.3	178	5.2	5.3	-0.5	-3	
D-275	192.4	200	4.7	5	-3.4	-1.7	
D-300	181.5	222	6.3	5.2	-3.3	-2.4	
D-325	170.6	244	5.8	5.6	-2.3	-1.5	
D-350	159.8	266	6.5	4	-2.3	-7.3	
D-375	148.9	288	10.6	5.4	-2.3	2.6	
D-400	138	310	11	8.2	-1.1	-1	collected 7/2
R-0	30	-69	15.2	17	-0.6	2	
R-25	12	-86.7	28	45	-5	2.5	
R-50	-6	-104	3	-10	1.5	-2.2	
R-75	-24	-122	8.6	26.5	0.9	0.7	
R-100	-42	-140	23.3	17.4	-3.2	-3.7	
R-125	-60	-158	20	16	0.5	-0.5	
R-150	-78	-175	47.2	42	0.9	0.4	
R-175	-96	-193	7.5	4.3	-1.6	-1	
R-200	-114	-211	9.6	6	0.2	4	
R-225	-132	-229	5.3	8.6	-0.5	-1	
R-250	-150	-246	0.7	-11	5.6	11	
R-275	-168	-264	5.5	2	-1.4	-2.3	

Notes:

1 - Coordinate system based on origin at E-0, located approx. 105 feet west of Shop building, and approx. 75 feet NNW of NW cor 'of garage.

X varies in E-W direction (+ to east), Y varies in N-S direction (+ to north).

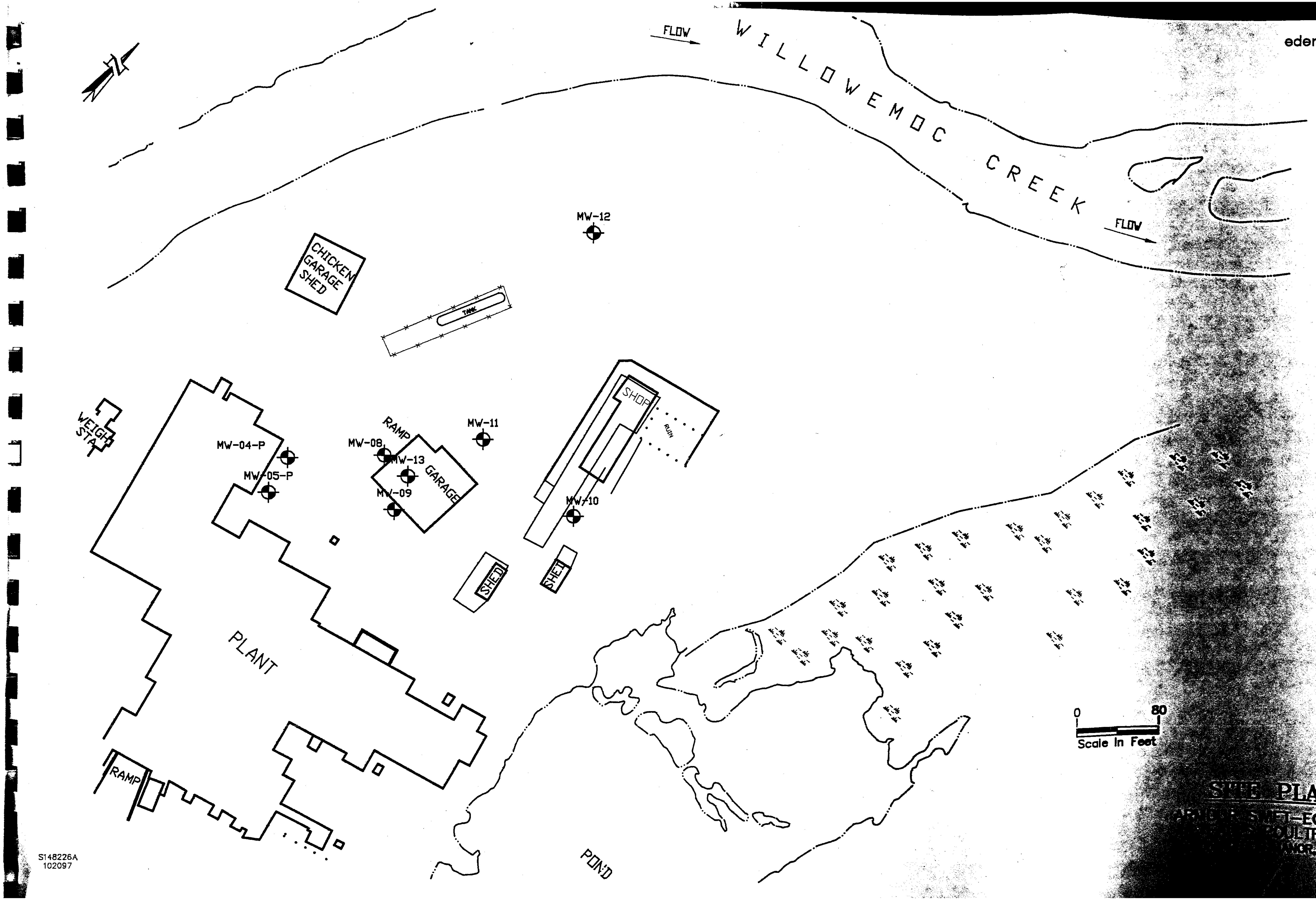
Profile designations match x coordinate where possible (profiles L, M, N, O, P, G, H) and are offset 50 feet for I, 100 feet for J& and 150 feet for Q.

-1sc - represents out of scale

Data from profiles G, H, I, J, K, Q, P and O collected July 1, 1997 unless otherwise noted.

Data from profiles A, B, C, CC, D, L, M, N and R collected July 2, 1997 unless otherwise noted.

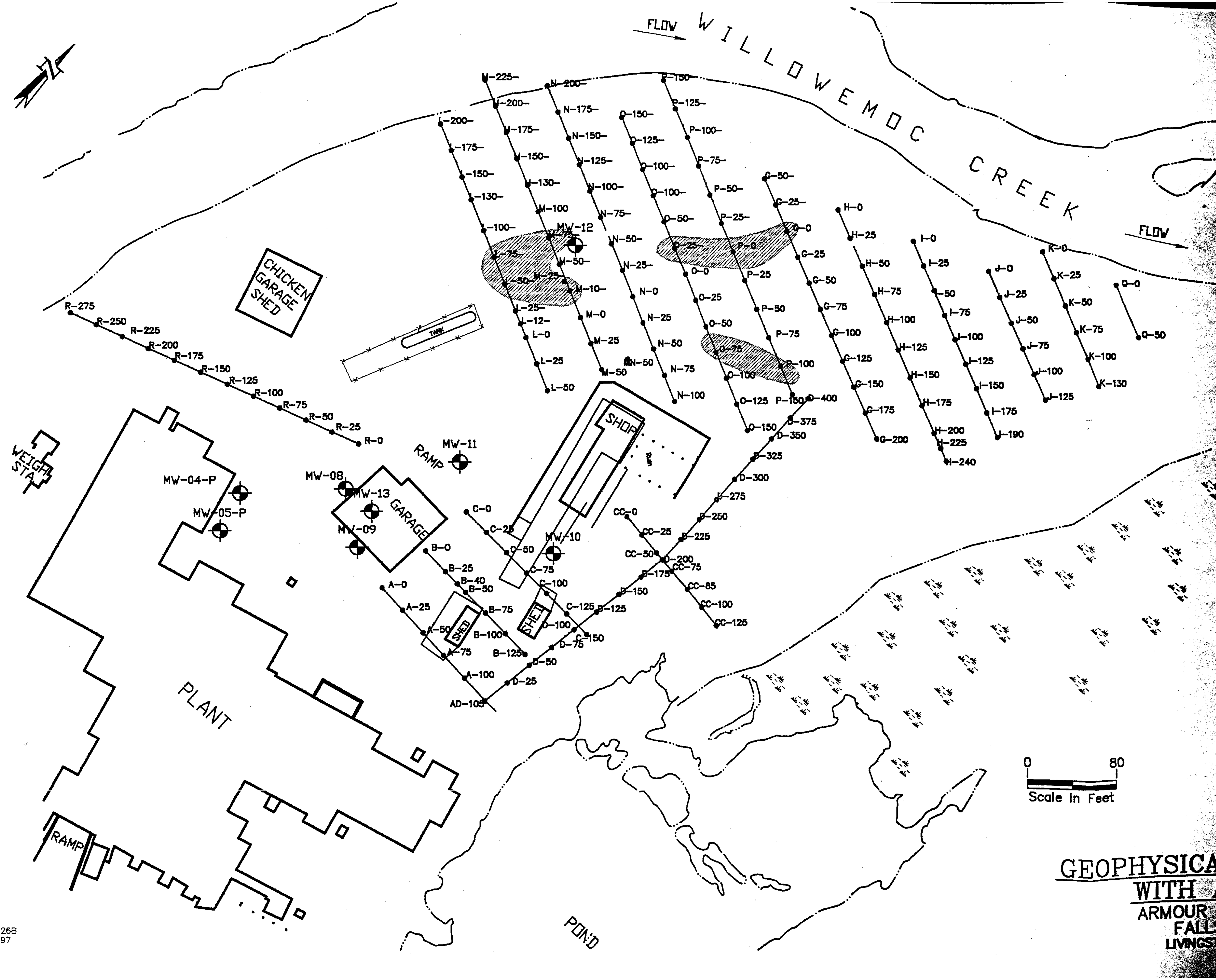
eder associates
FIGURE 1



SITE PLAN
ARMOUR SWIFT–ECKRICH
[illegible] POULTRY
[illegible] MANOR, NY

S148226A
102097

eder associates
FIGURE 2

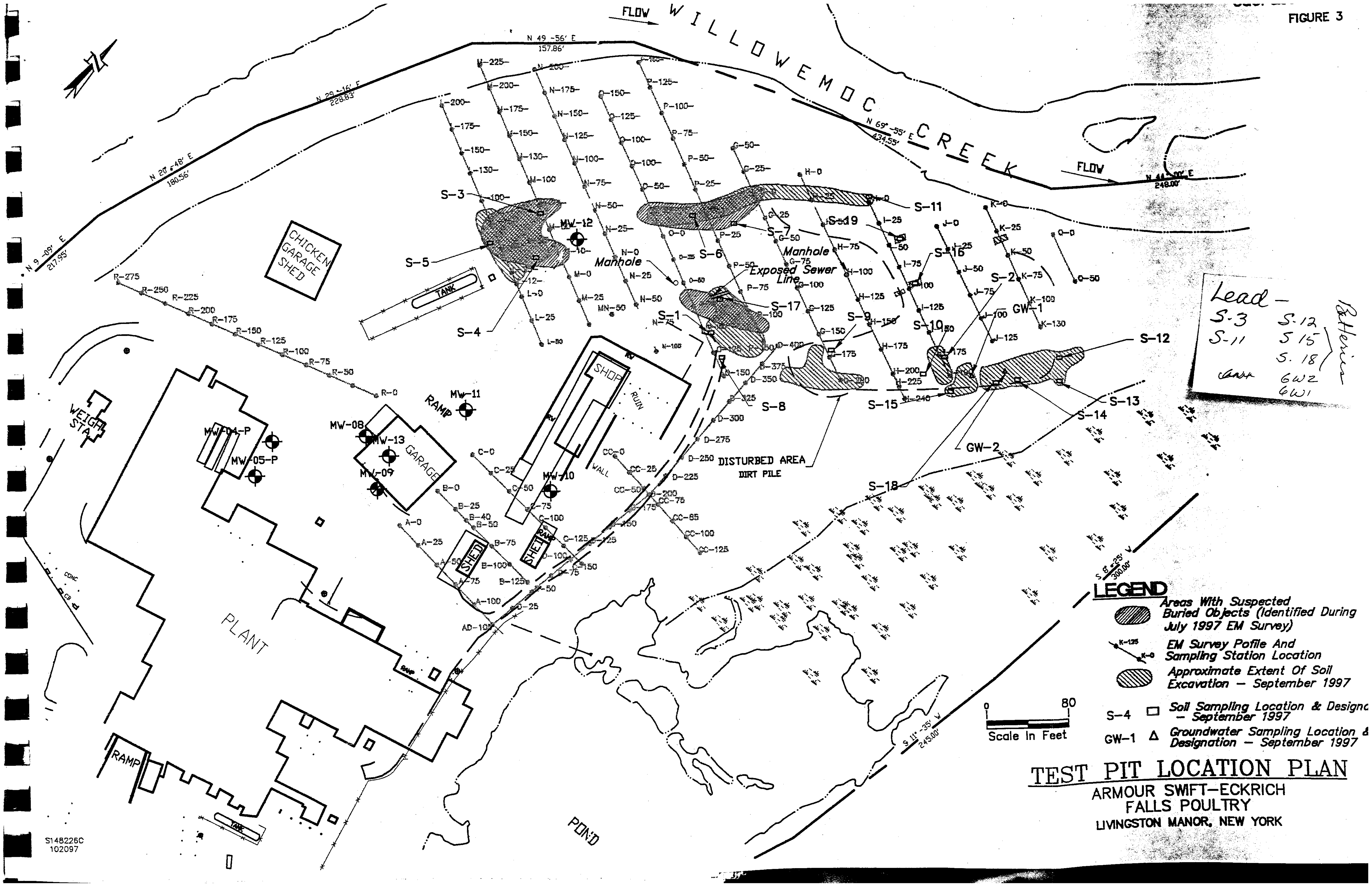


GEOPHYSICAL SURVEY GRID WITH ANOMALIES

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NY

S148226B
102097

FIGURE 3



LEGEND

▨ Areas With Suspected Buried Objects (Identified During July 1997 EM Survey)

EM Survey Pofile And Sampling Station Location

▨ Approximate Extent Of Soil Excavation – September 1997

S-4 □ Soil Sampling Location & Designc – September 1997

GW-1 △ Groundwater Sampling Location & Designation – September 1997

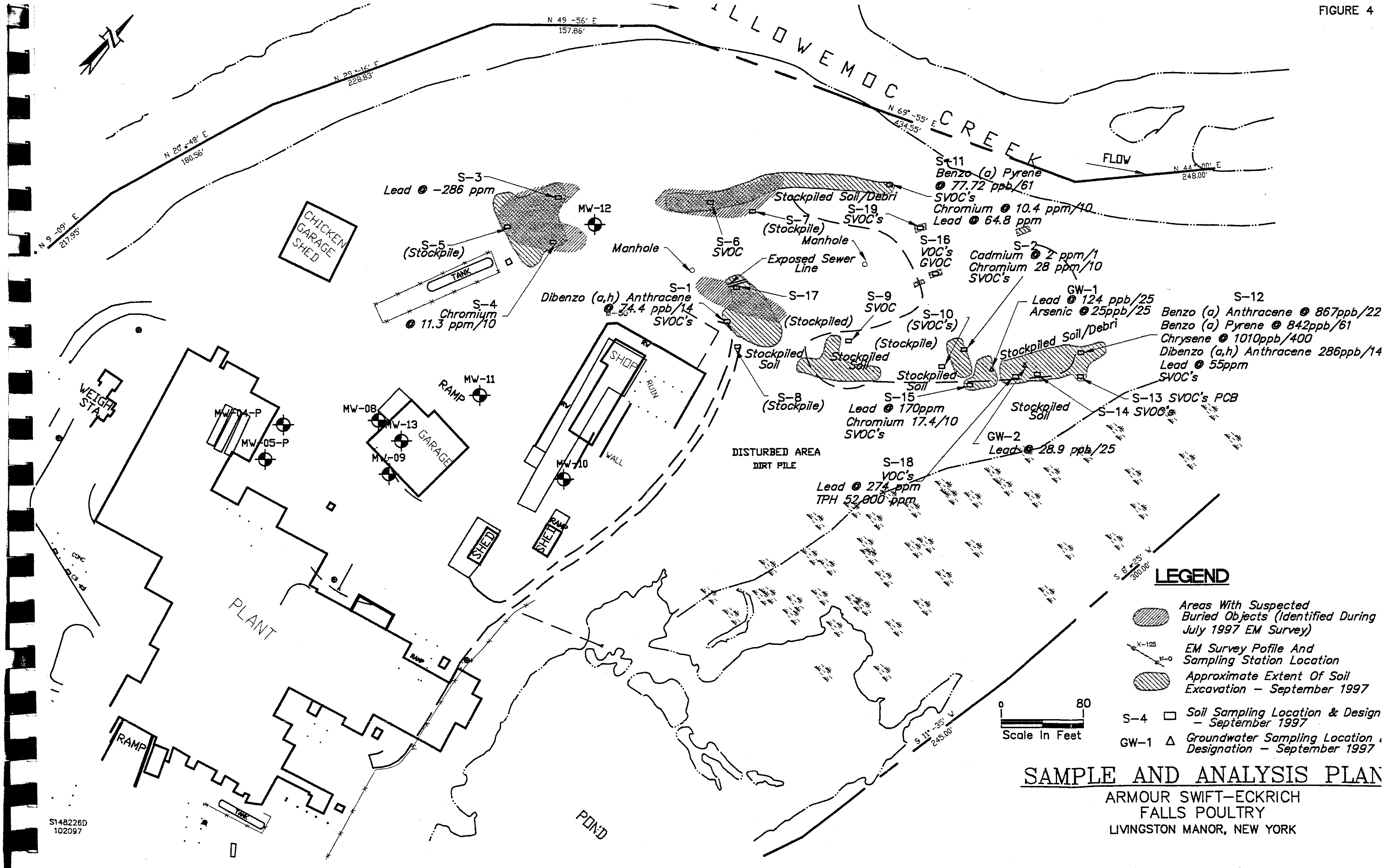
0 80
Scale In Feet

TEST PIT LOCATION PLAN

ARMOUR SWIFT–ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

Lead –
S-3 S.12
S-11 S 15
S. 18
[illegible] GW2
GW1
Batteries

FIGURE 4



SAMPLE AND ANALYSIS PLAN

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

APPENDIX B

TEST PIT INVESTIGATION PHOTOGRAPHS

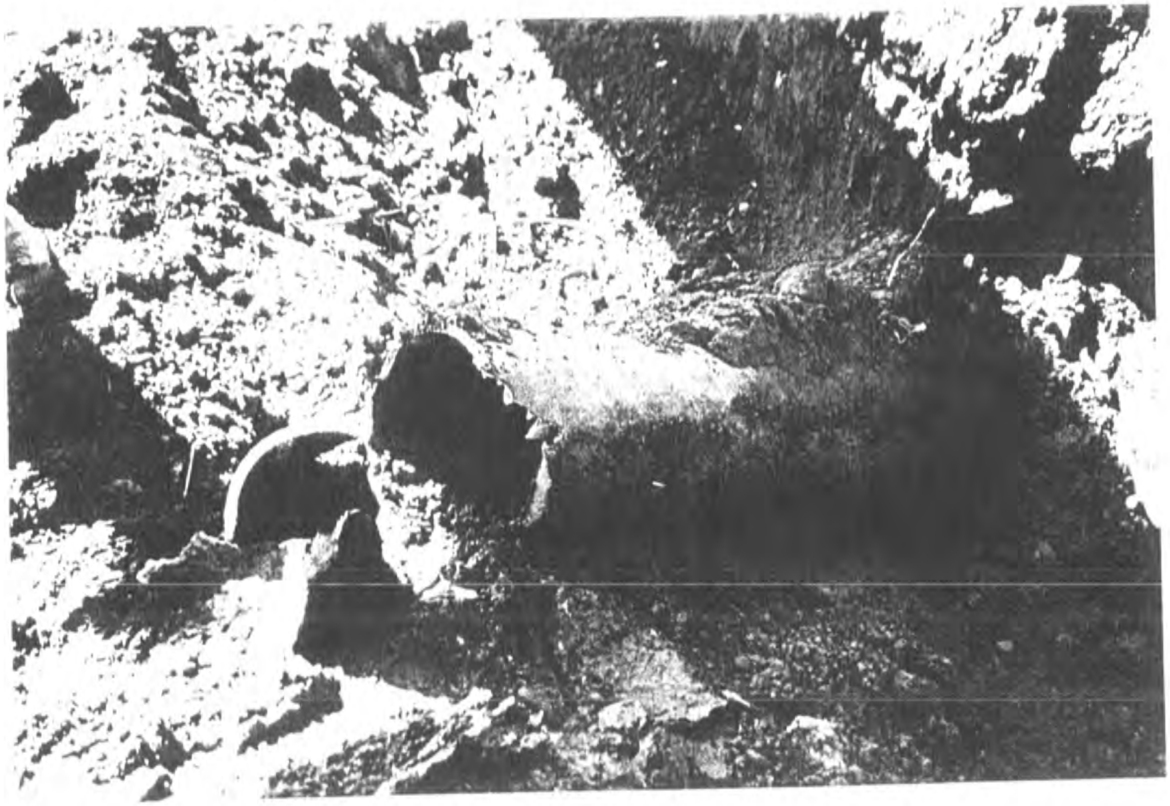
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 1 - 9/15/97
Excavation behind building foundation (O-100 & P-150)

PHOTOGRAPH 2 - 9/15/97
Excavation behind building foundation, note darker soils at water table

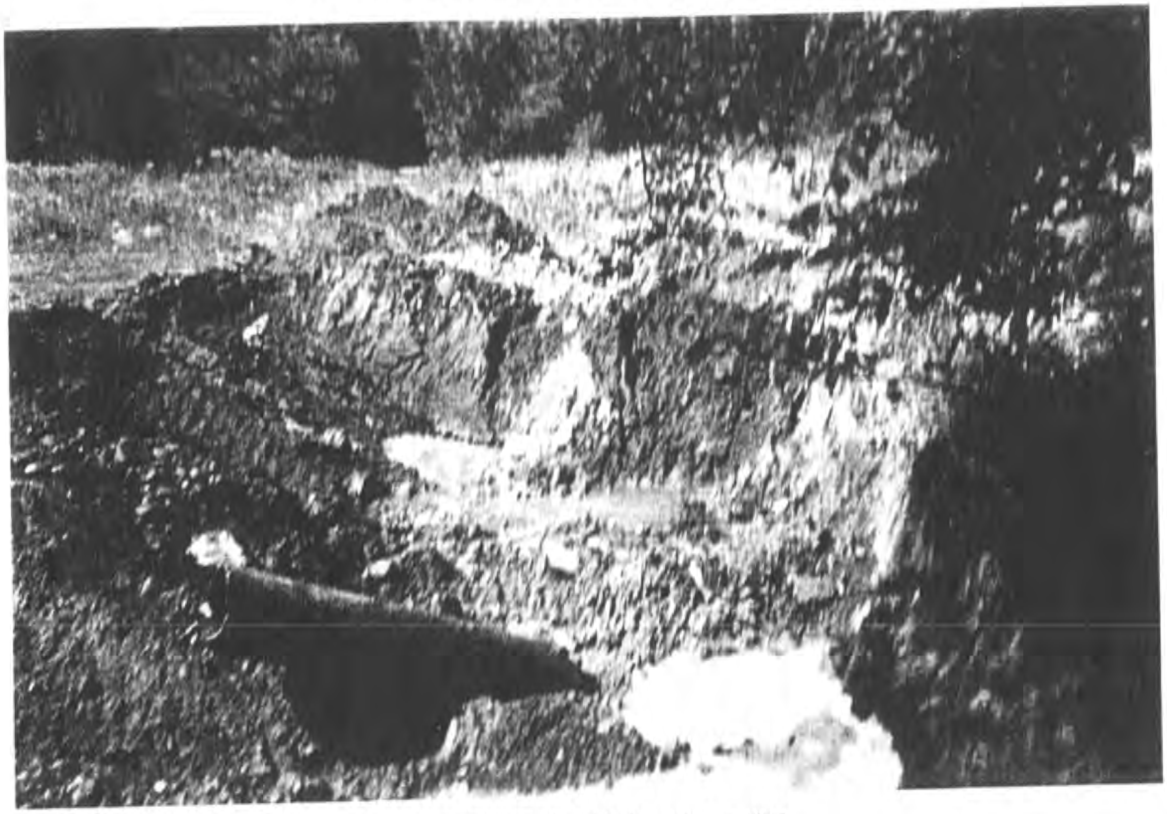
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 3 - 9/15/97
Broken sewer pipe (between O-75 & P-75)



PHOTOGRAPH 4 - 9/15/97
Broken sewer pipe

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

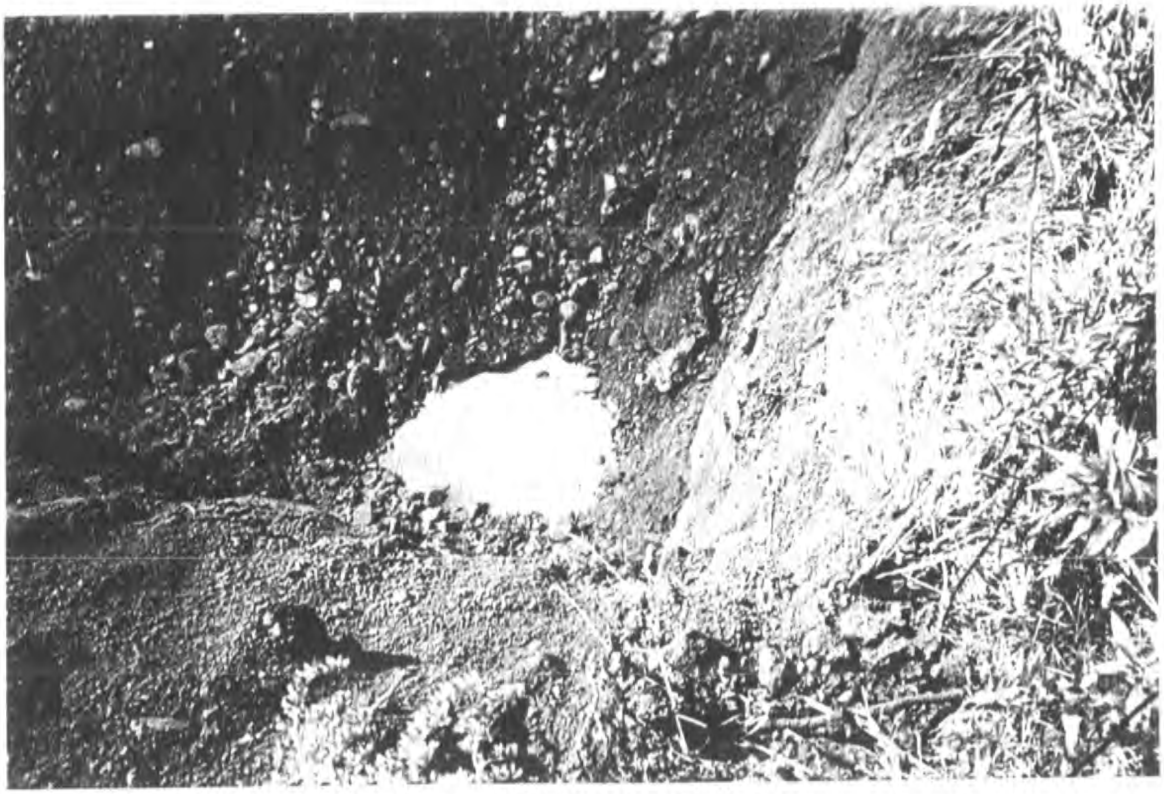


PHOTOGRAPH 5 - 9/15/97
Excavation at sewer, note water flowing from sewer

PHOTOGRAPH 6 - 9/15/97
Excavation at G-175 to G-200, metal pipes, cement

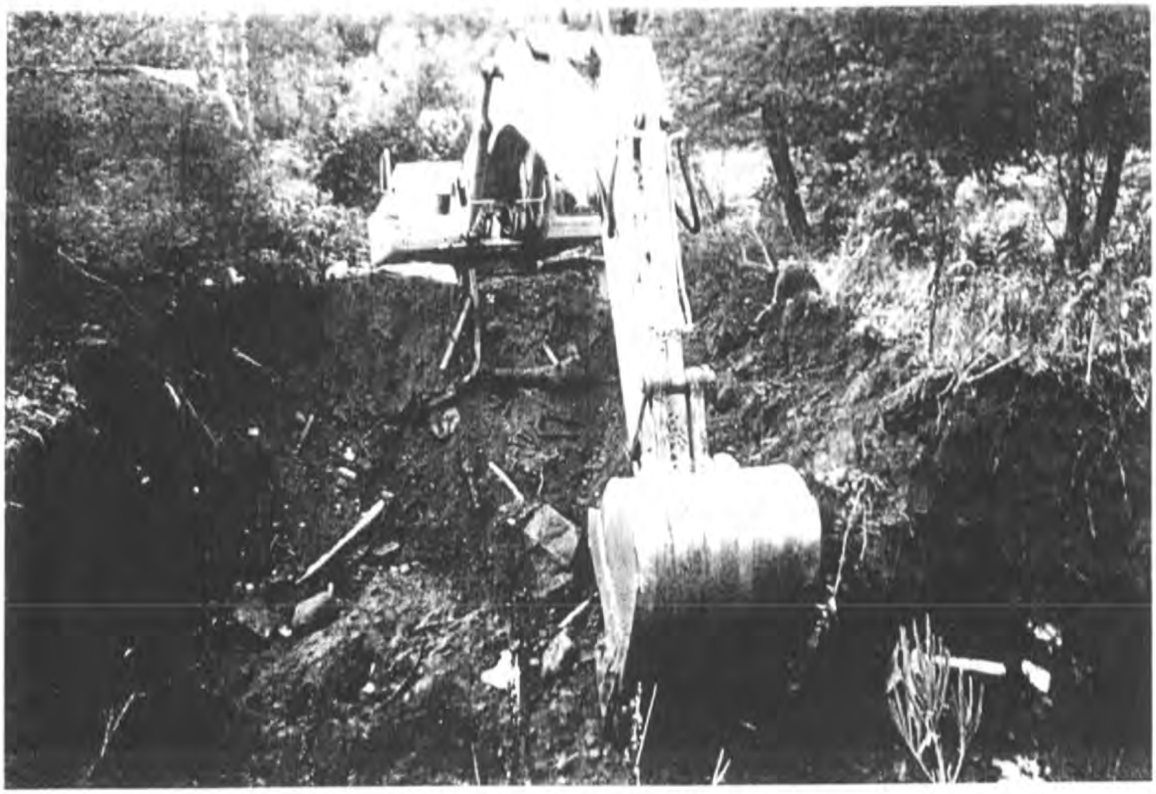
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 7 - 9/15/97
Small drum containing metal nuts & bolts



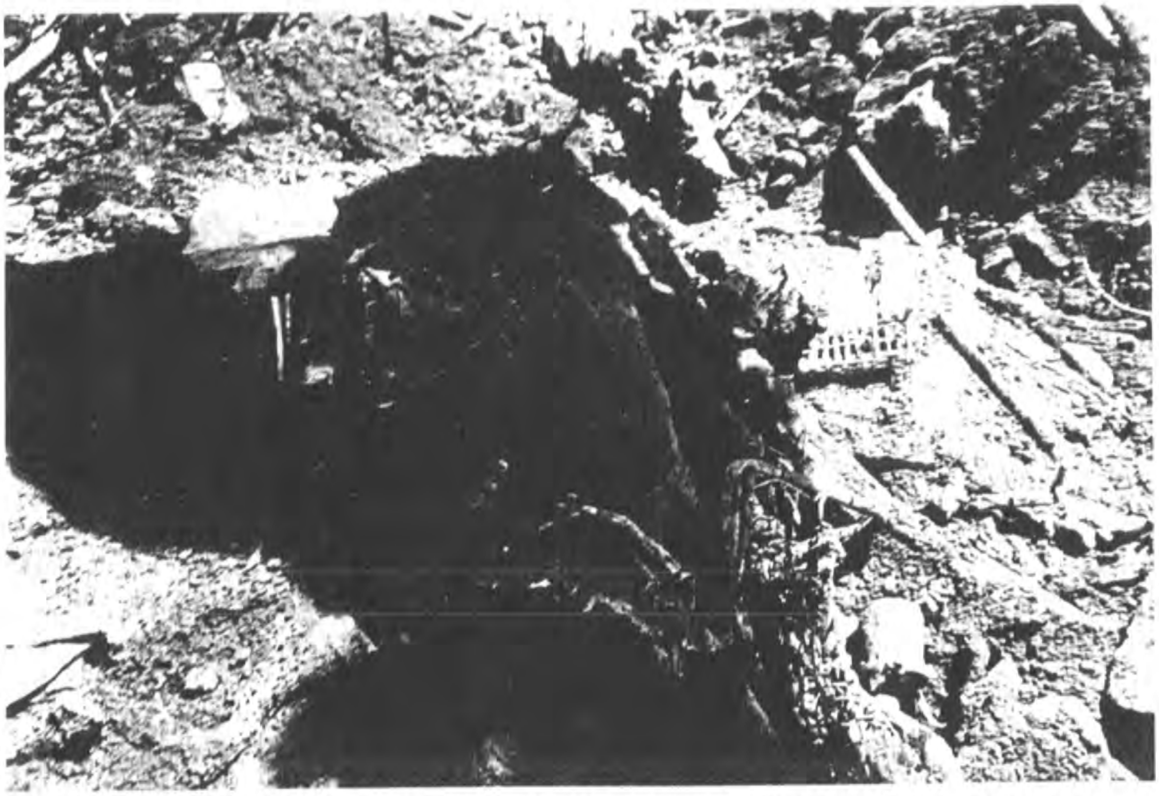
PHOTOGRAPH 8 - 9/15/97
Coarse cobbles at 7-8 feet, water at 9 feet (G-200)

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

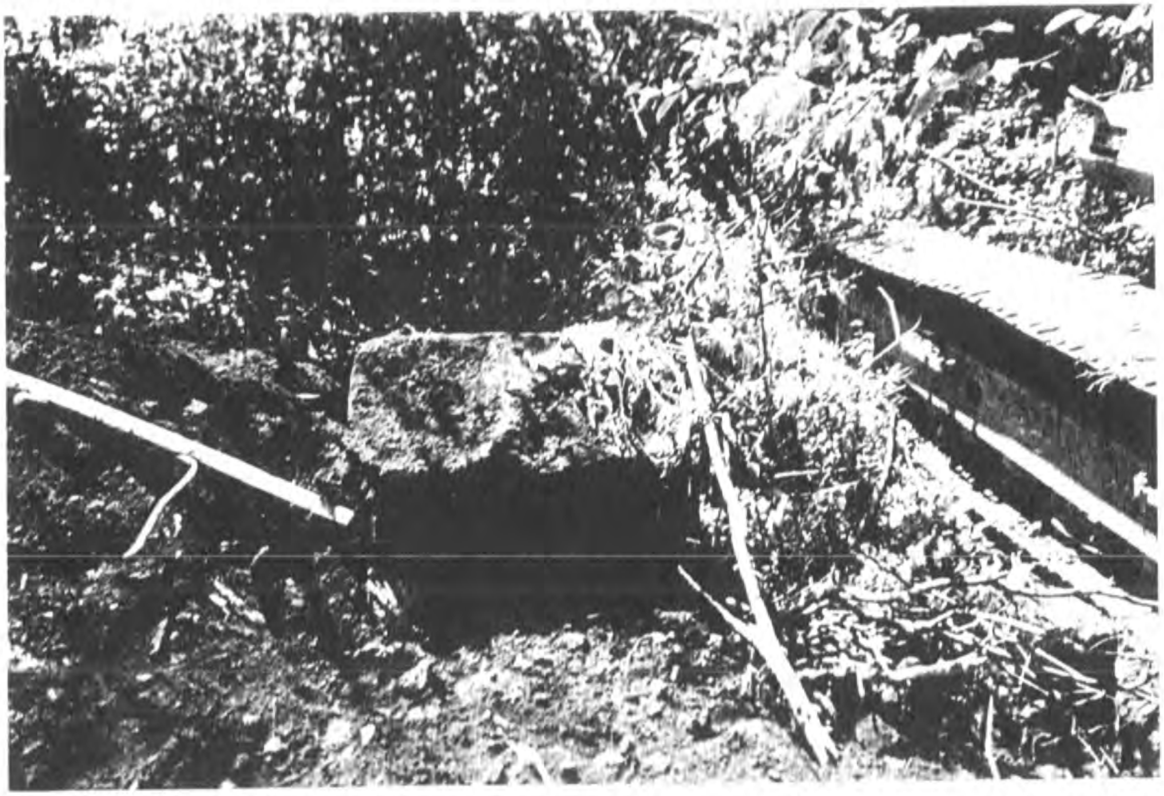


PHOTOGRAPH 9 - 9/15/97
Metal debri, pipes (East of D-400)

PHOTOGRAPH 10 - 9/15/97
Compressed gas tank (North of D-375)

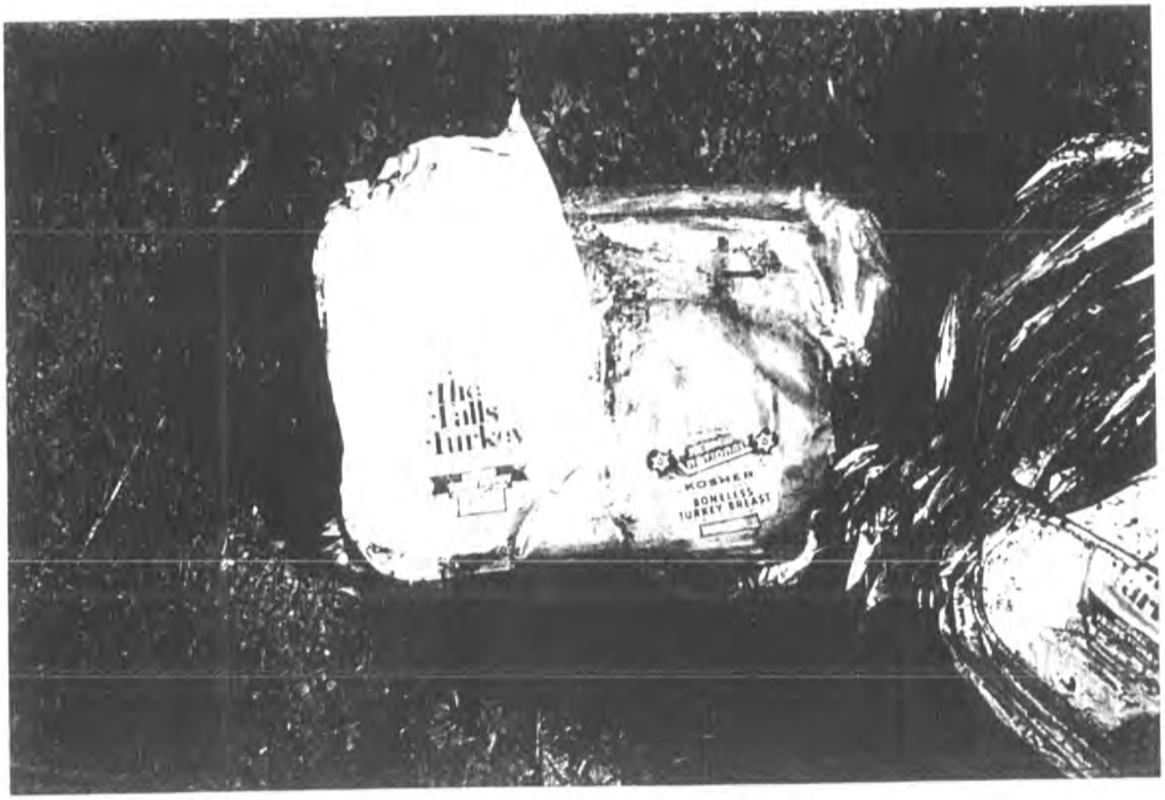


PHOTOGRAPH 11 - 9/15/97
Crushed tank, pipes, plastic (North of D-375)



PHOTOGRAPH 12 - 9/15/97
Metal basin (North of D-375)

PHOTOGRAPH 13 - 9/15/97
Extend Excavation East toward wetland



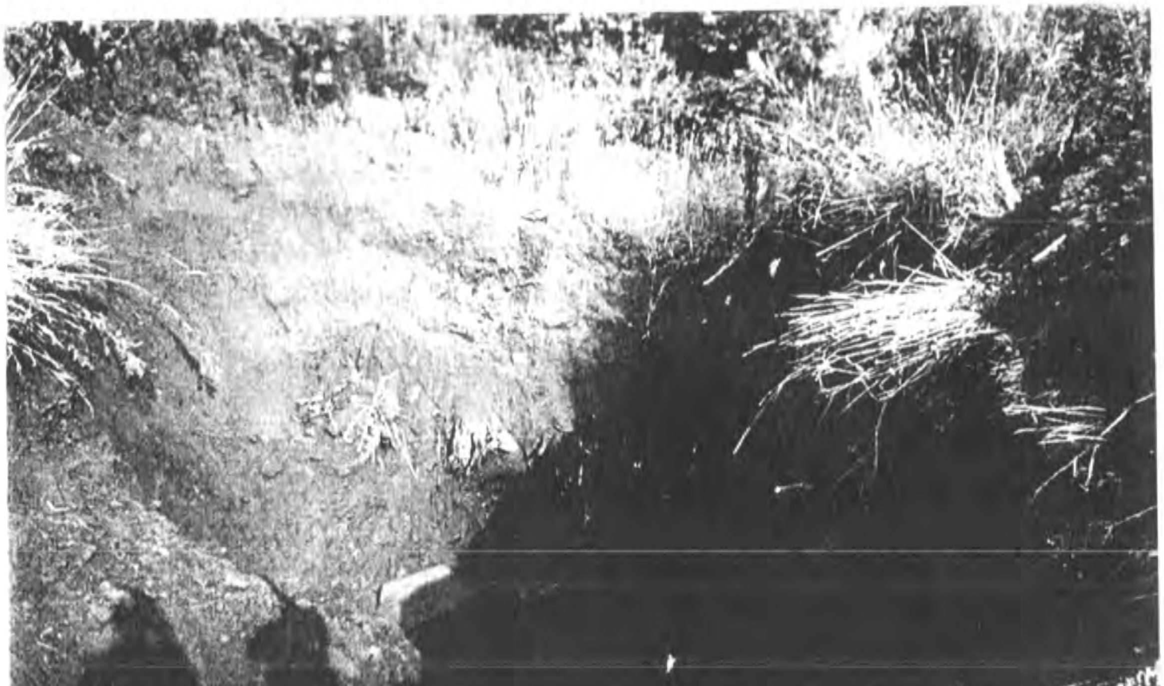
PHOTOGRAPH 14 - 9/15/97
Plastic bags from excavation at I-175

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 15 - 9/15/97
Large autobody part, other debri (I-175)

PHOTOGRAPH 16 - 9/15/97
Auto parts, metals from excavation at I-175

PHOTOGRAPH 17 - 9/15/97
Crushed drum (I-175 to I-190)



PHOTOGRAPH 18 - 9/15/97
Excavation at I-175 to I-190

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 19 - 9/15/97
Antifreeze drum from 7 foot depth, sample S-2 (I-175)

PHOTOGRAPH 20 - 9/16/97
Excavation at L-50-, North of tank enclosure

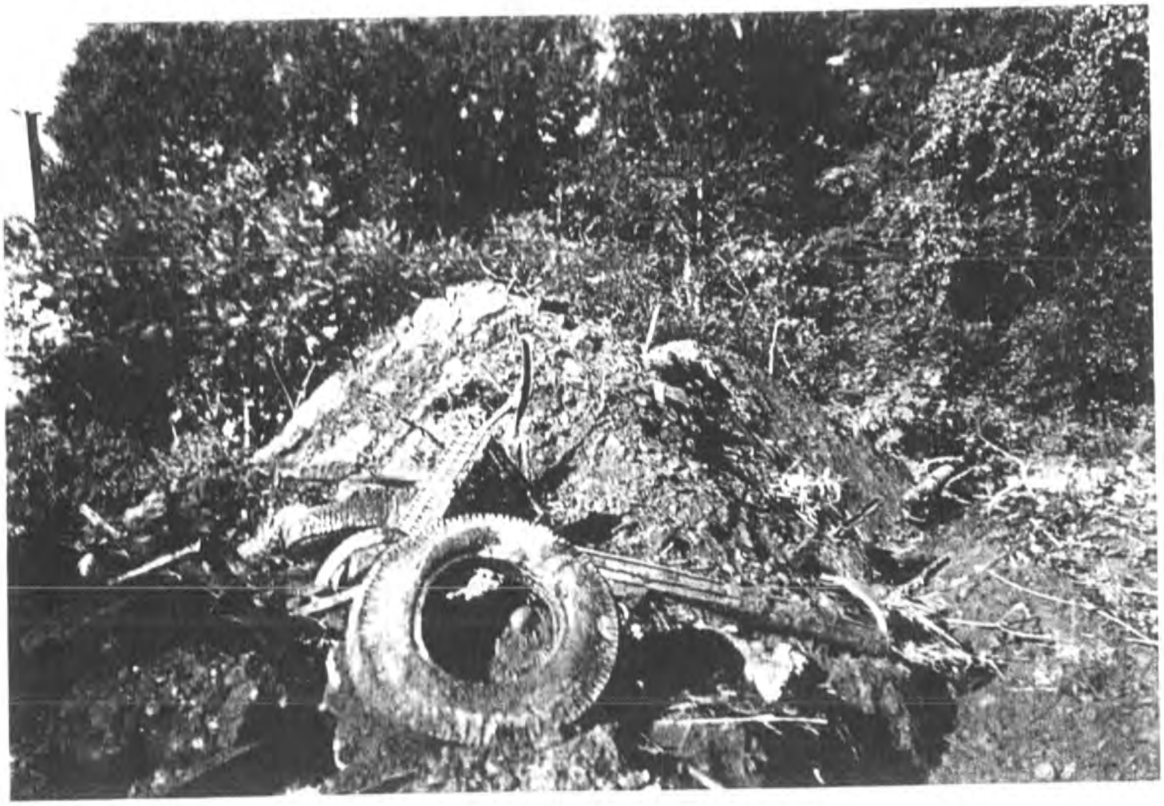
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 21 - 9/16/97
Crushed drum of "ZEP" lubricant (L-75-)

PHOTOGRAPH 22 - 9/16/97
Small propane tank, tires (L-75-)

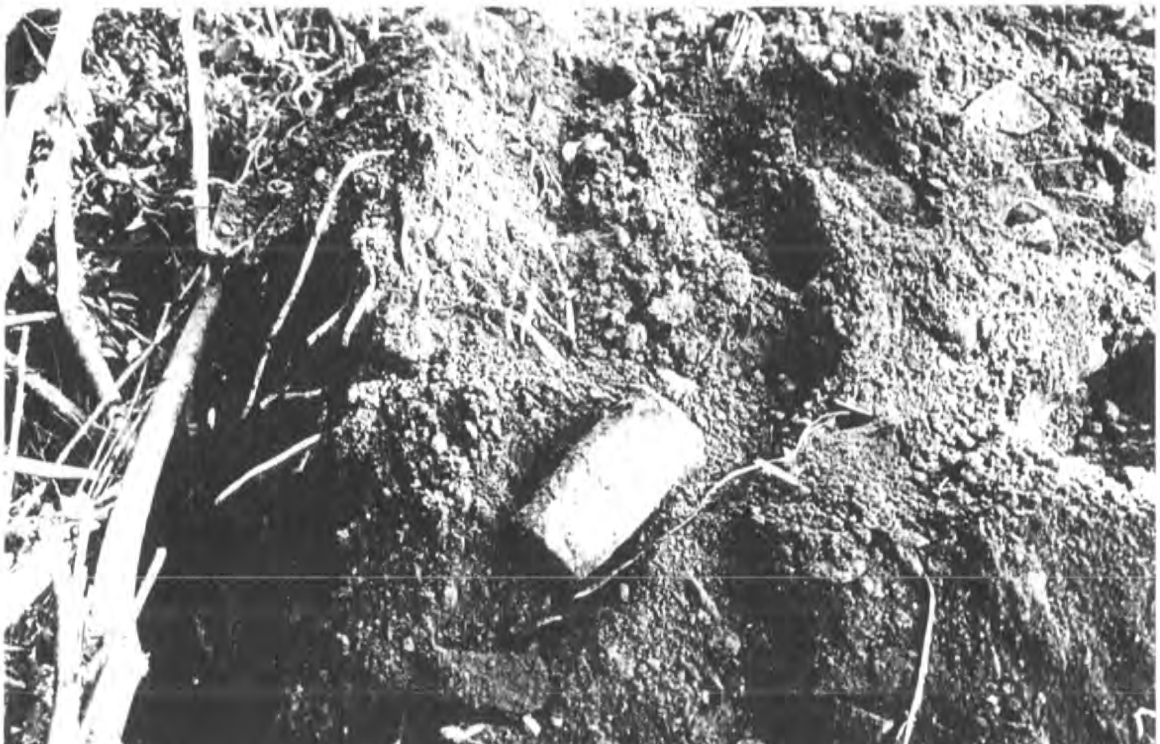
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 23 - 9/16/97
Tires from excavation (L-75-)



PHOTOGRAPH 24 - 9/16/97
Soils and debri from L-M area excavation

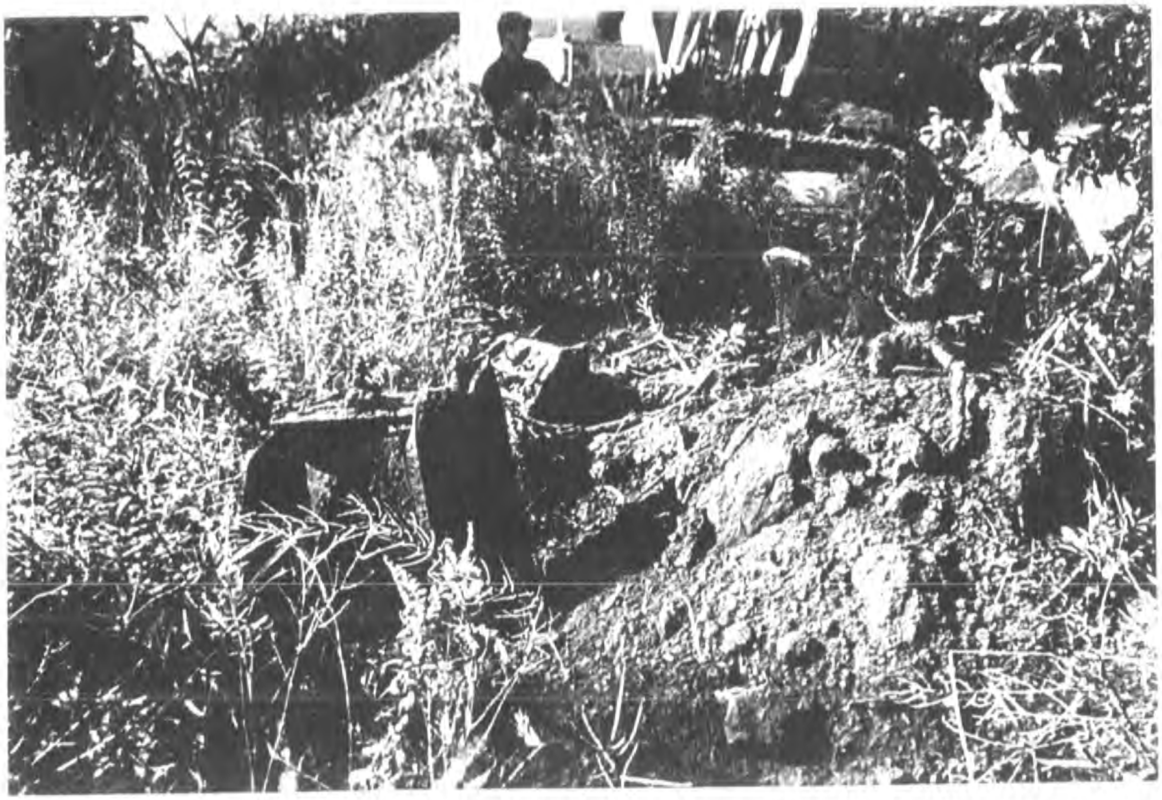
PHOTOGRAPH 25 - 9/16/97
Metal rails, basins, other debri from L-M area excavation



PHOTOGRAPH 26 - 9/16/97
Red oil filter (M-75-)

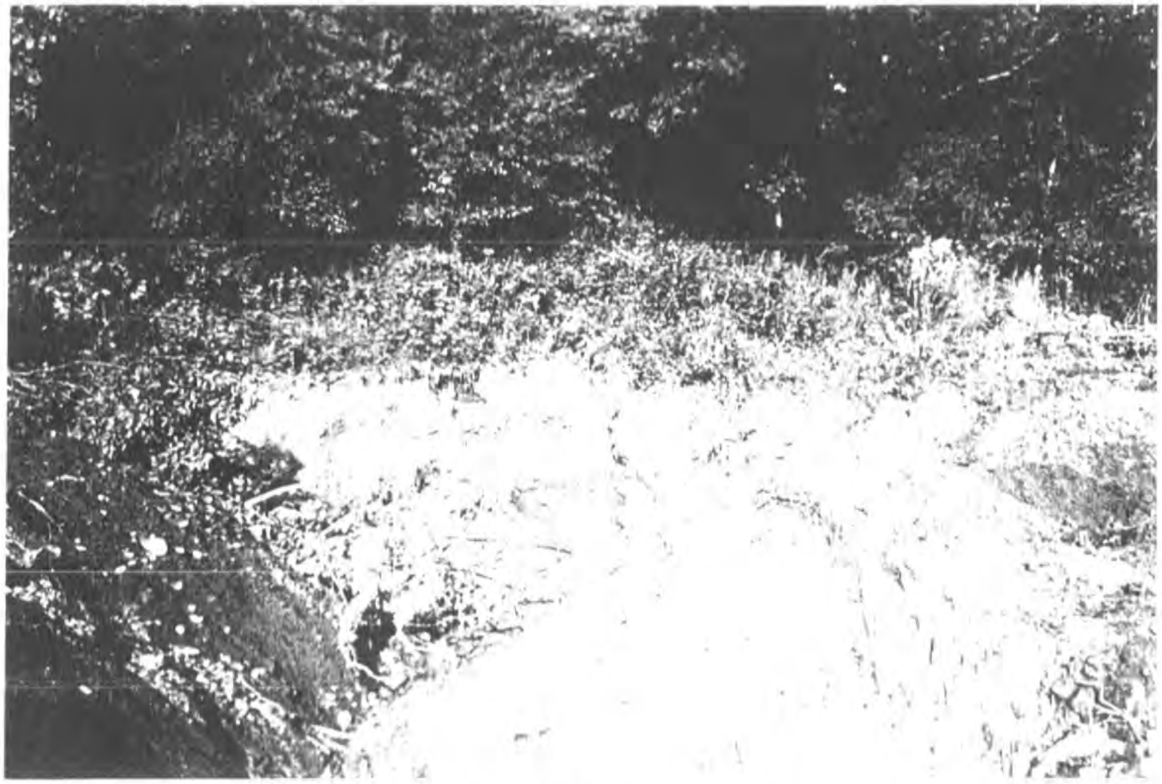
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 27 - 9/16/97
Engine parts, sample S-3 (M-50- to M-75-)



PHOTOGRAPH 28 - 9/16/97
Metal parts, debri (M-50- & M-75-)

PHOTOGRAPH 29 - 9/16/97
Excavating at L-M area



PHOTOGRAPH 30 - 9/16/97
Excavation at L-M area, looking West

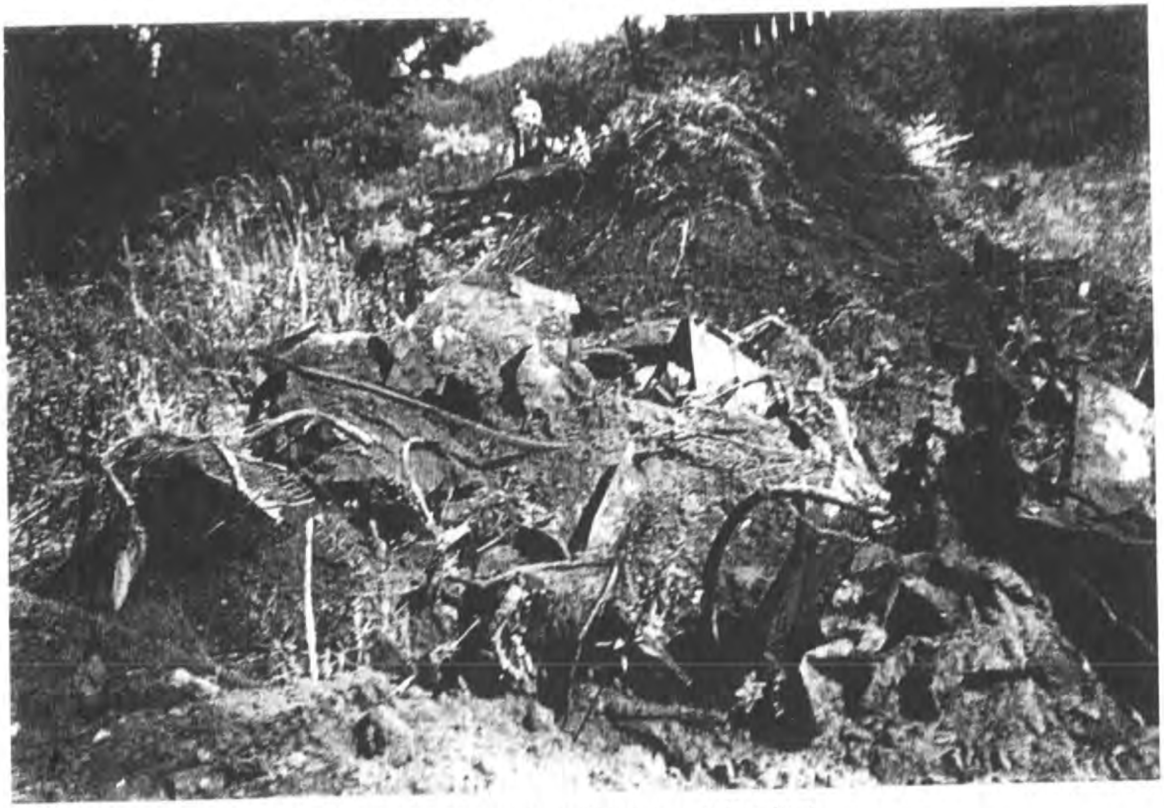
ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 31 - 9/16/97
Crushed tanks & drums, sample S-4 (between L-25- & M-10-)

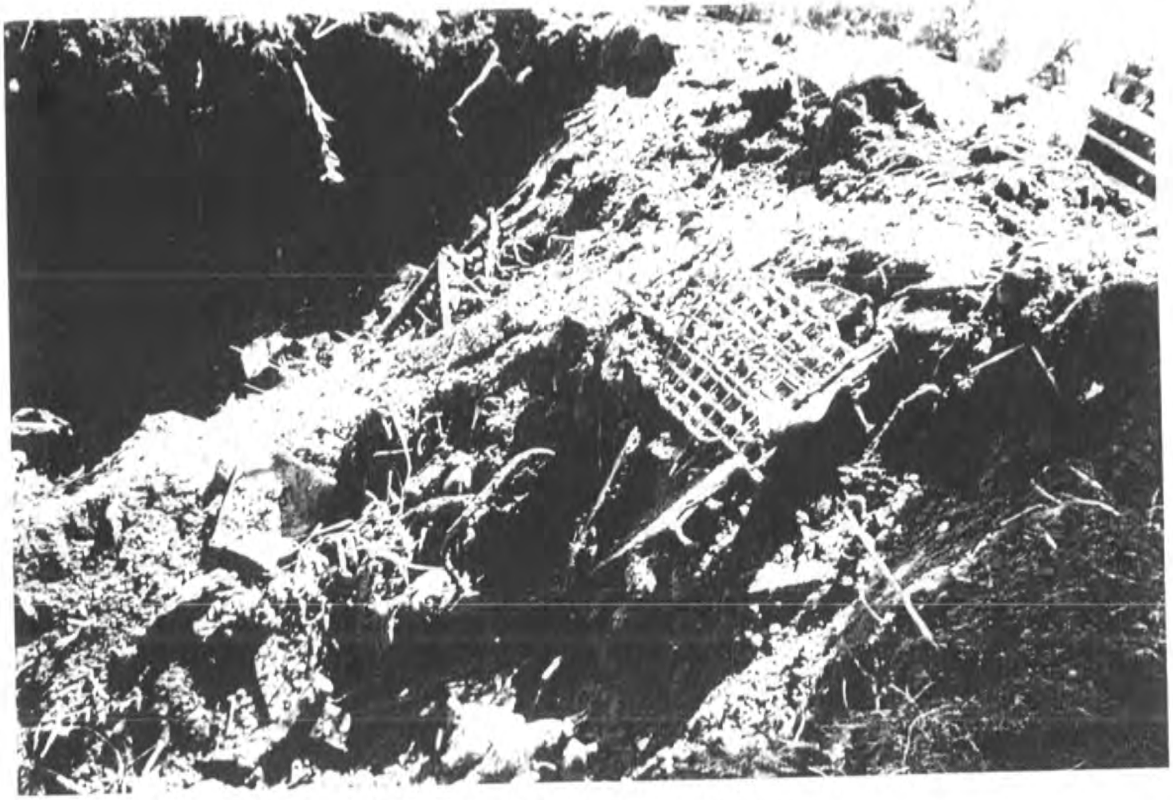
PHOTOGRAPH 32 - 9/16/97
Plastic bags from L-M excavation

PHOTOGRAPH 33 - 9/16/97
North end of L-M excavation, little debri, water at 7 feet

PHOTOGRAPH 34 - 9/16/97
Metal tanks, drums, some corrosion (H-25)



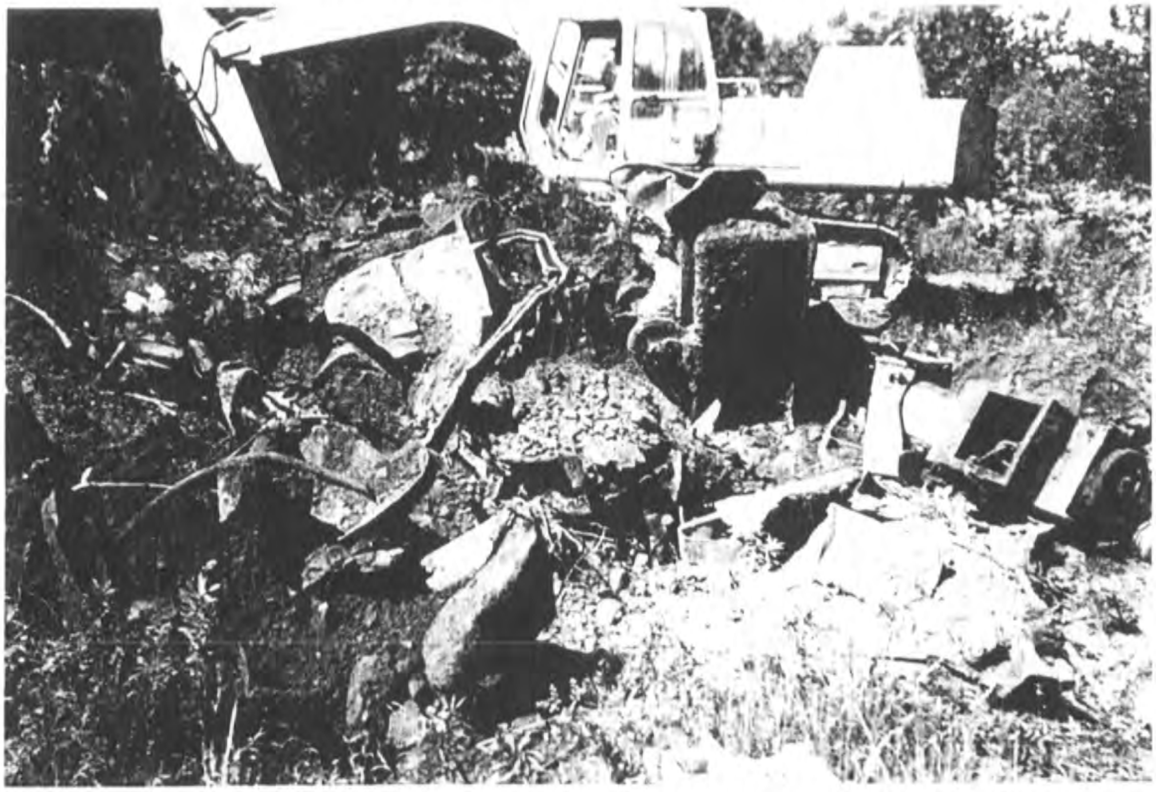
PHOTOGRAPH 35 - 9/16/97
Metal tanks, debri (H-25)



PHOTOGRAPH 36 - 9/16/97
Trash & plastic southwest of P-0

PHOTOGRAPH 37 - 9/16/97
Excavation from P-0 to O-25-: plastic, trash & wood

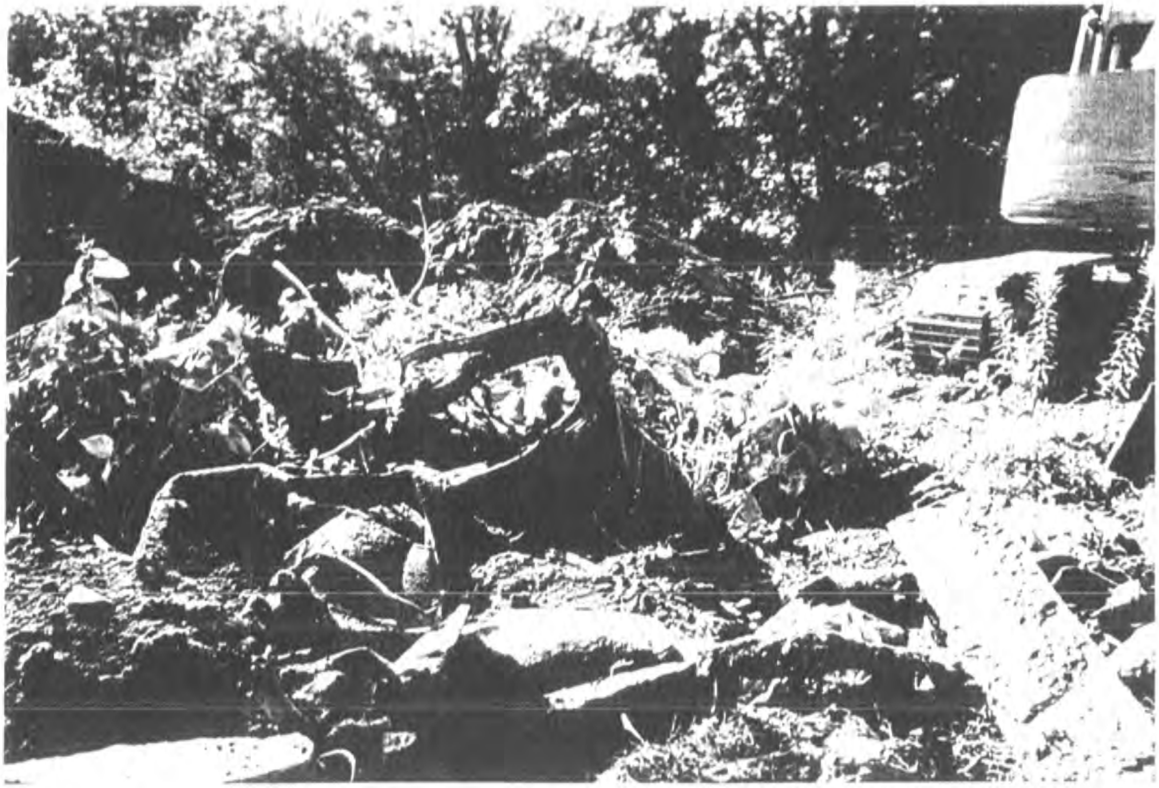
PHOTOGRAPH 38 - 9/16/97
Stockpiled soil & debri, excavation from O-25- to H-25



PHOTOGRAPH 39 - 9/16/97
Metal basin, auto parts, fender (North of H-25)

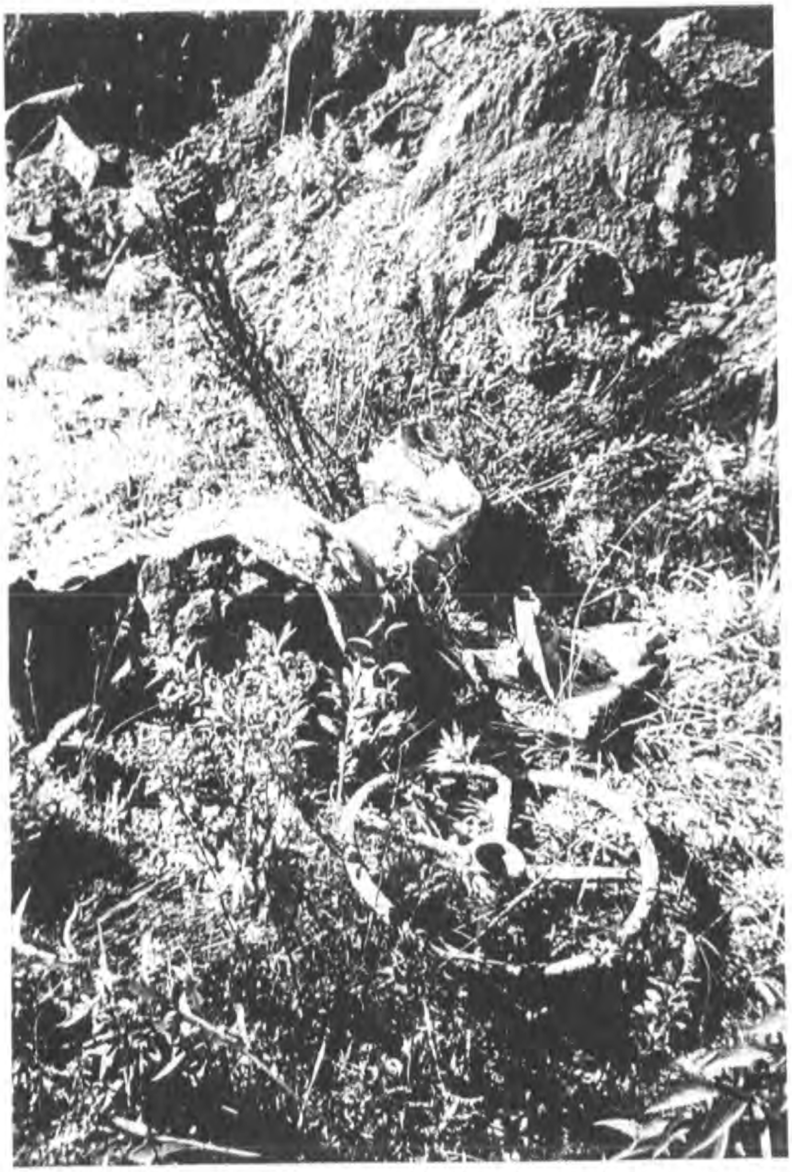
PHOTOGRAPH 40 - 9/16/97
Excavation from H-25 to I-0

PHOTOGRAPH 41 - 9/16/97
Metal parts & cement along sidewall at I-0



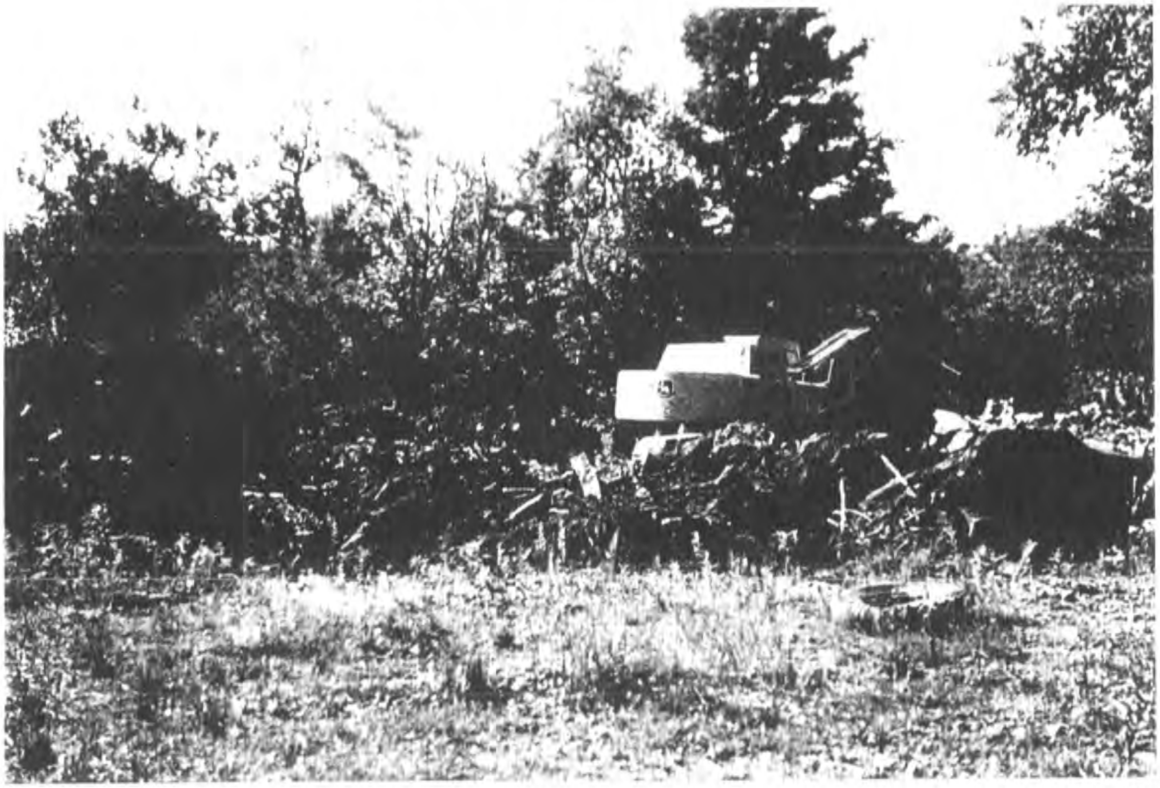
PHOTOGRAPH 42 - 9/16/97
Bus parts: door, fender from excavation between H-25 & I-0

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK



PHOTOGRAPH 43 - 9/16/97
Bus wheel, other parts (between H-25 & I-0)

PHOTOGRAPH 44 - 9/16/97
Crushed drum (between H-25 & I-0)

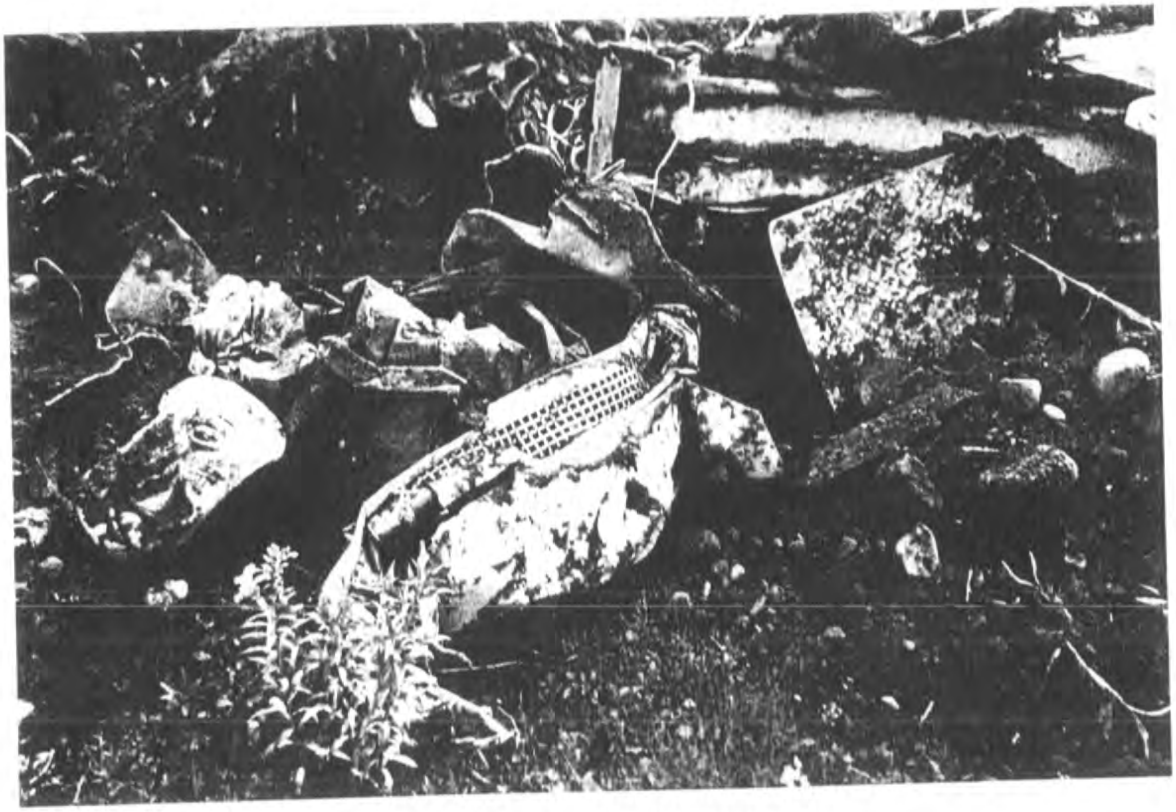


PHOTOGRAPH 45 - 9/16/97
Soil & debri piles from long excavation East of Willowemoc Creek

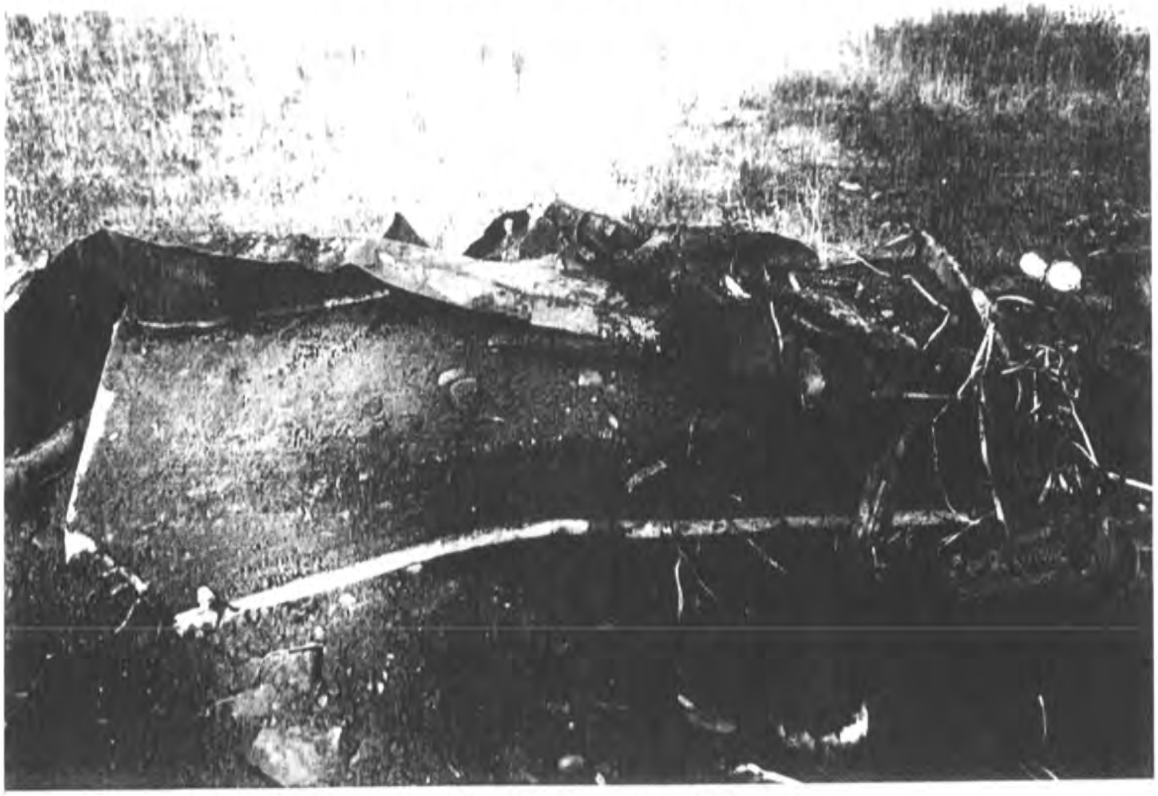
PHOTOGRAPH 46 - 9/17/97
Excavation into bank East of K-130, metal parts

PHOTOGRAPH 47 - 9/17/97
Front of truck from excavation East of J-125 & K-130

PHOTOGRAPH 48 - 9/17/97
Metal parts & crushed drums



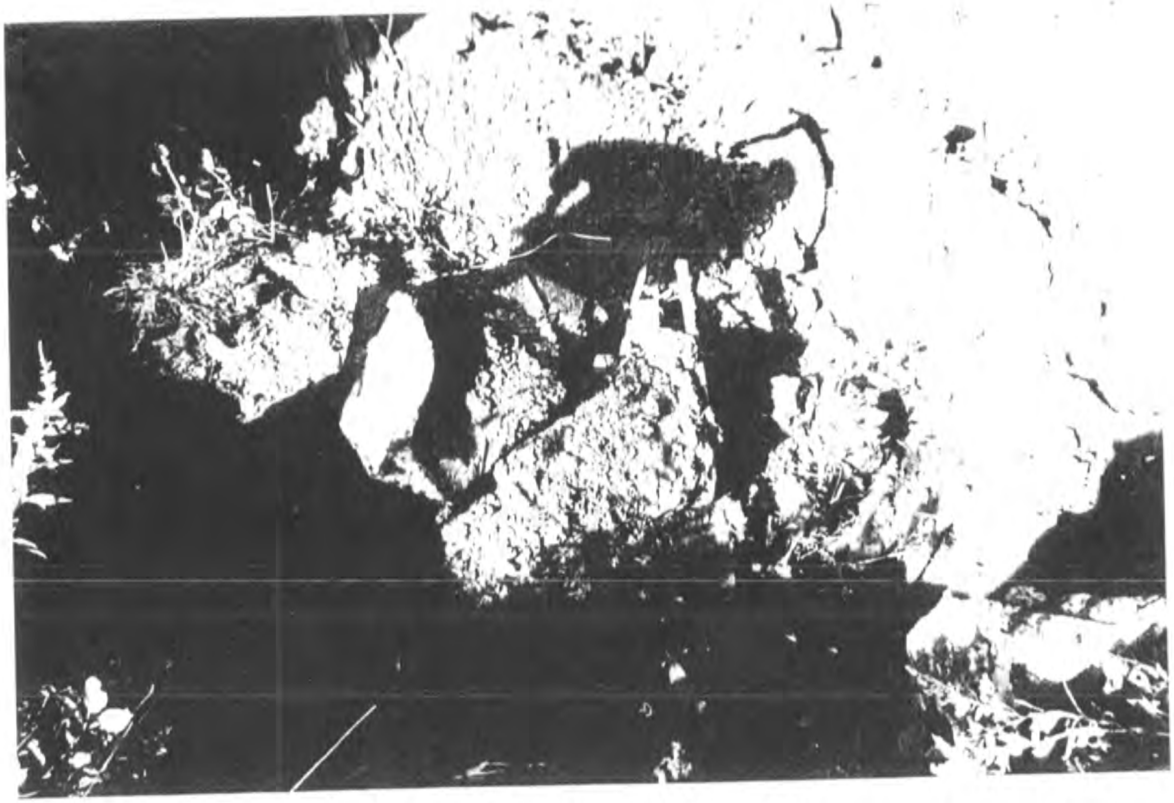
PHOTOGRAPH 49 - 9/17/97
Yellow grille, other bus parts from East of J-125



PHOTOGRAPH 50 - 9/17/97
Radiator, other bus parts (East of J-125)

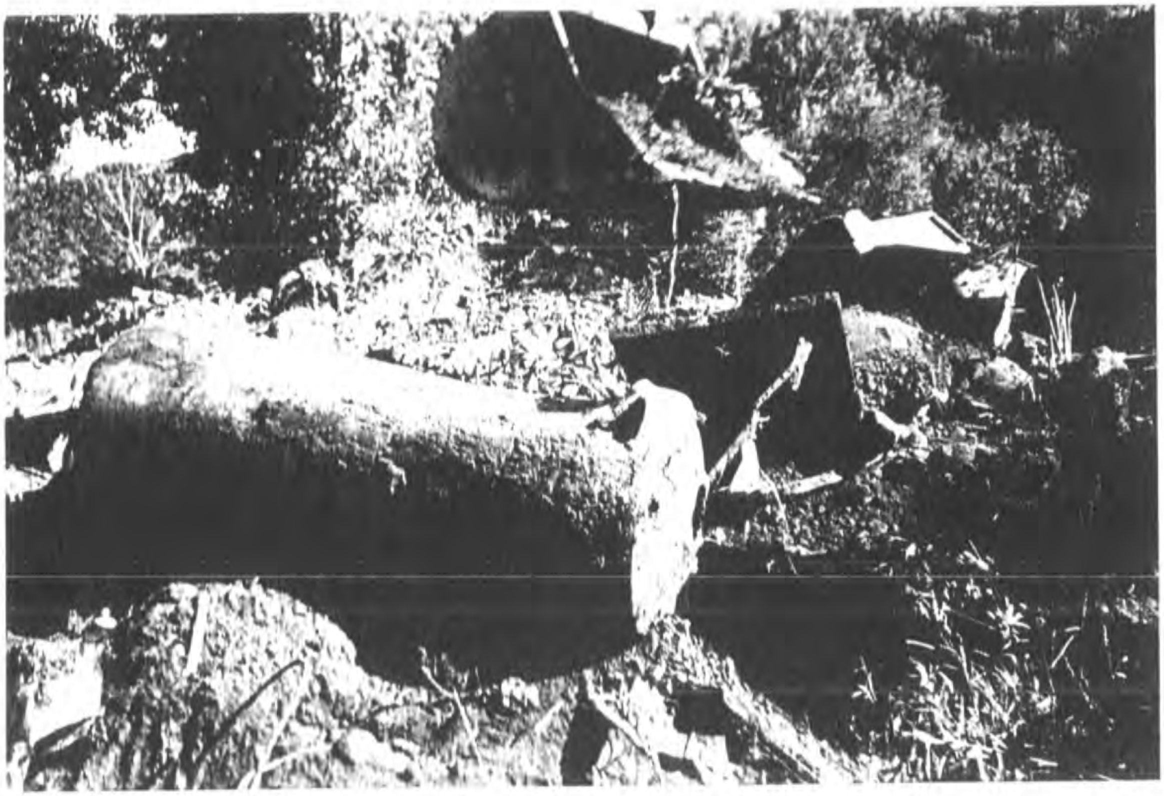
PHOTOGRAPH 51 - 9/17/97
Crushed drums, other metal parts from excavation

PHOTOGRAPH 52 - 9/17/97
Crushed metal basins, drums & other debri adjacent to wetland



PHOTOGRAPH 53 - 9/17/97
Crushed drum of "ZEP" lubricant (East of J-125)

PHOTOGRAPH 54 - 9/17/97
Thick lubricant oozing from drum in trackhoe bucket



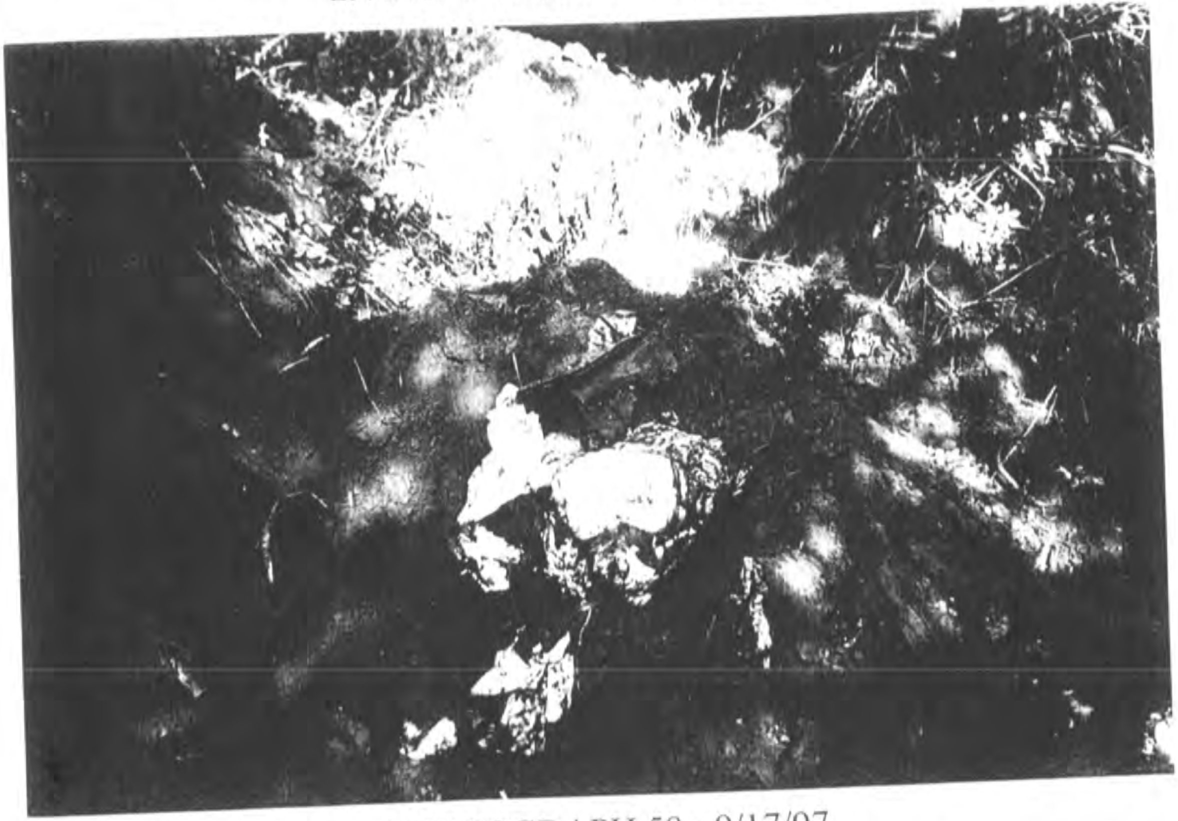
PHOTOGRAPH 55 - 9/17/97
Storage tank, metal basins (Southeast of J-125)

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

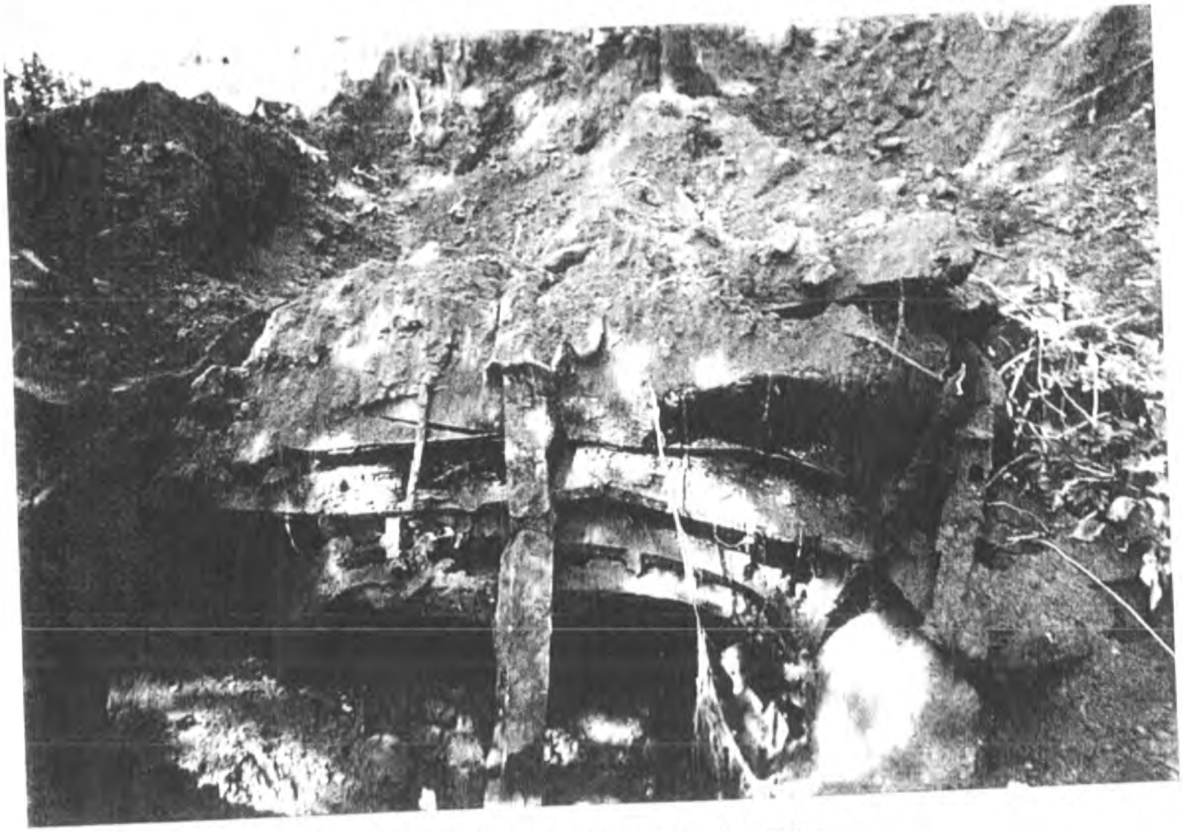
PHOTOGRAPH 56 - 9/17/97
Crushed drums from excavation East of J-125

PHOTOGRAPH 57 - 9/17/97
Plastic bags, gloves, blue smocks (North of I-190)

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK



PHOTOGRAPH 58 - 9/17/97
"Falls Turkey" plastic bags, metal (North of I-190)

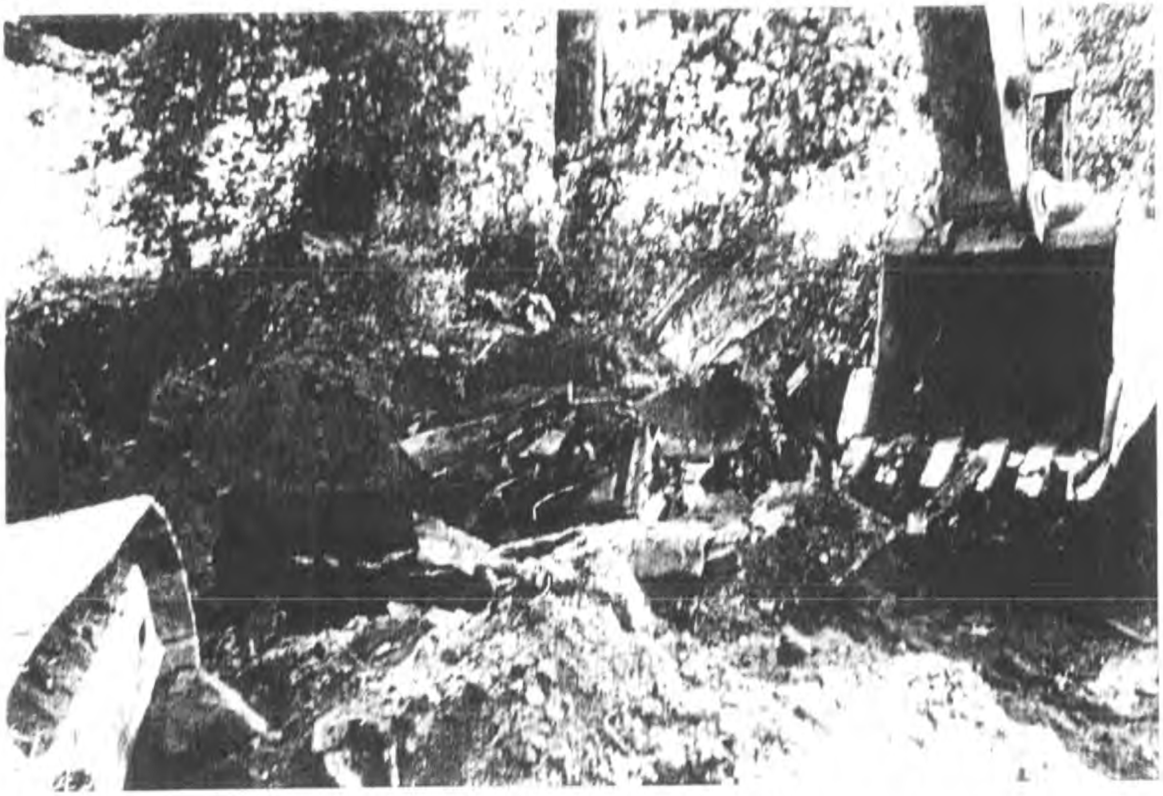


PHOTOGRAPH 59 - 9/17/97
Expose large truck/trailer body (East of I-190)

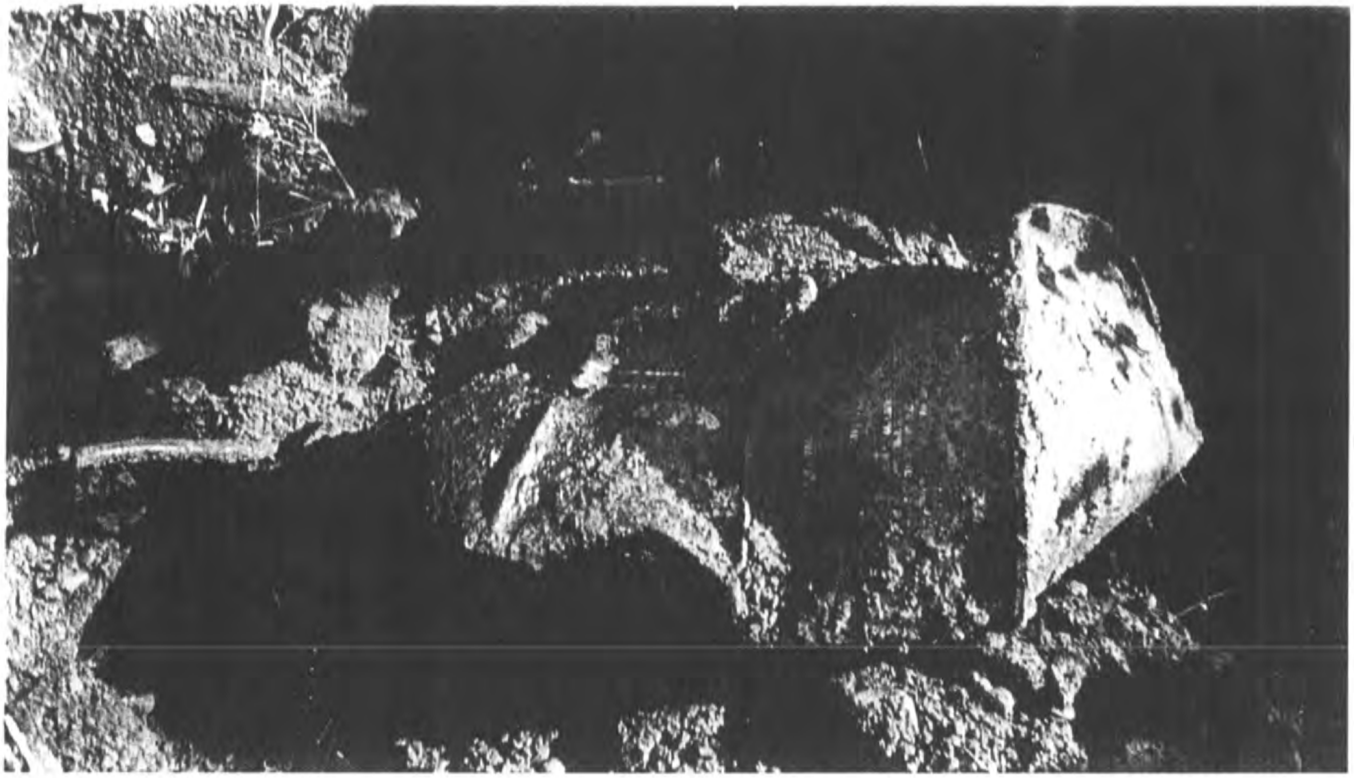
PHOTOGRAPH 60 - 9/17/97
Remove large piece of trailer (East of I-190)

PHOTOGRAPH 61 - 9/17/97
Large piece of trailer body

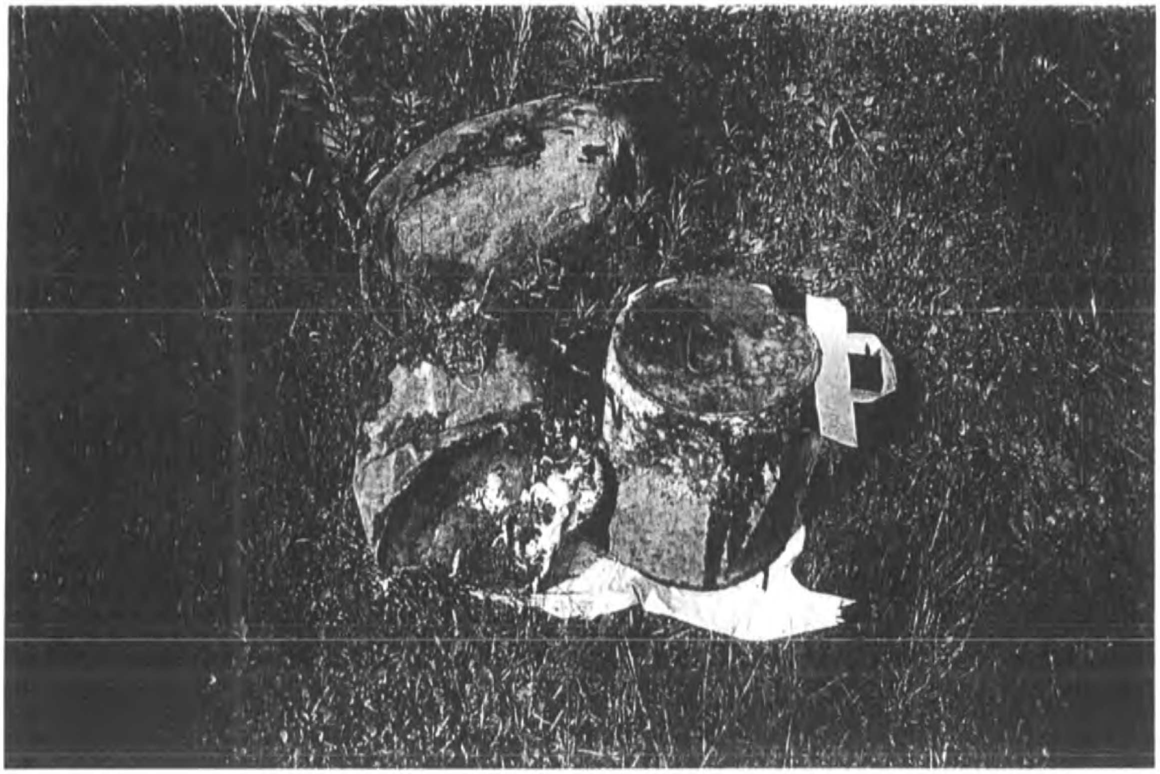
PHOTOGRAPH 62 - 9/17/97
Yellow bus parts: side body, window (East and Northeast of I-190)



PHOTOGRAPH 63 - 9/17/97
Yellow bus parts, dark-stained soil, sample S-15 (East of I-190)



PHOTOGRAPH 66 (9/17/97)
Zep drum east of J-125.



PHOTOGRAPH 67 (9/17/97)
Two 5-gallon containers with contents removed from the excavation east of J-125.

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

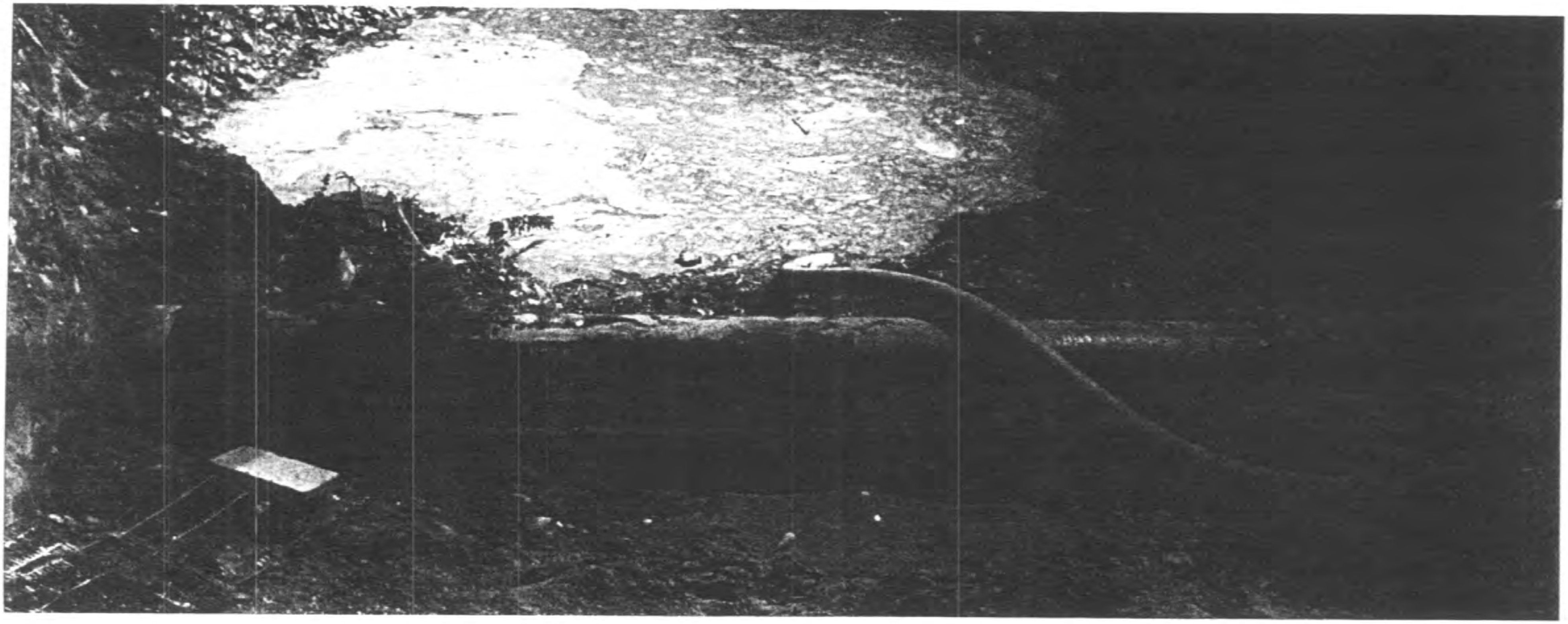
PHOTOGRAPH 68 (9/17/97)
Diesel tank from trailer truck, several plastic and metal drums,
miscellaneous debris from excavation northeast of K-130.

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 69 (9/17/97)

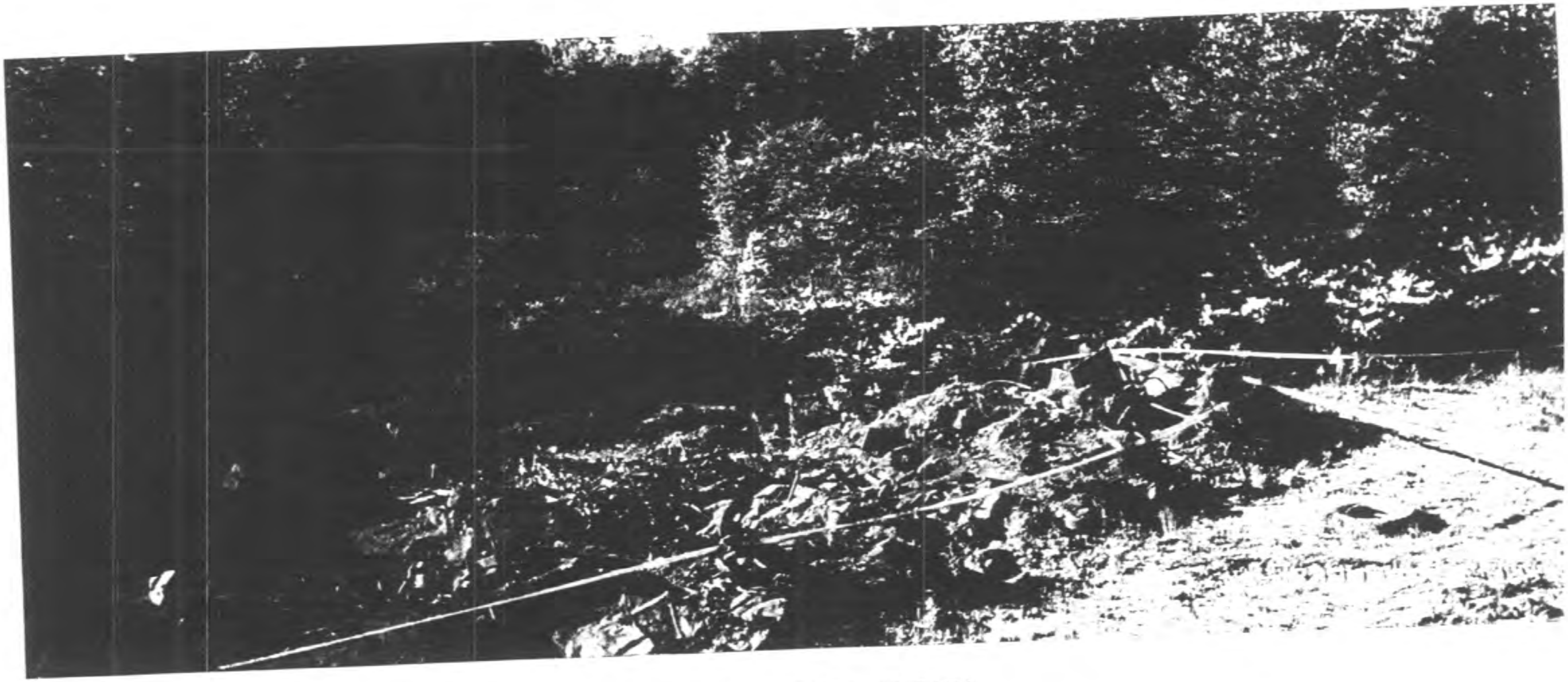
Crushed drums, tires, pieces of truck trailers and a bus, other miscellaneous debris found in excavation located east of I-190.

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK



PHOTOGRAPH 70 (9/17/97)
Sewer pipe repaired and water pumped to manhole.

PHOTOGRAPH 71 (9/17/97)
Excavation corded off with caution tape.



PHOTOGRAPH 72 (9/17/97)
West side excavation corded off with caution tape.

ARMOUR SWIFT-ECKRICH
FALLS POULTRY
LIVINGSTON MANOR, NEW YORK

PHOTOGRAPH 73 (9/17/97)
Entire north portion of property beyond the shop and propane
tank corded off with caution tape.

APPENDIX C

ANALYTICAL RESULTS

ACCUTEST®

10/07/97

Technical Report for

Eder Associates

Falls Poultry, Livingston Manor

1482-26

Accutest Job Number: E25828

Report to:

Eder Associates
91 Montvale Avenue
Stoneham, MA 02180

ATTN: Mark Johnson

Total number of pages in report: 105

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, KS, MA, MD, NC, PA, RI, SC, VA

Results relate only to the items tested.

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Sample Summary

Eder Associates

Date: 10/07/97
Job No: E25828

Falls Poultry, Livingston Manor
Project No: 1482-26

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
E25828-1	09/15/97	11:30	HE	09/19/97	SO	Soil	S-1, 3'-4'
E25828-2	09/15/97	14:25	HE	09/19/97	SO	Soil	S-2
E25828-3	09/16/97	09:50	HE	09/19/97	SO	Soil	S-3
E25828-4	09/16/97	10:30	HE	09/19/97	SO	Soil	S-4
E25828-5	09/16/97	10:45	HE	09/19/97	SO	Soil	S-5, STOCKPILE
E25828-6	09/16/97	12:20	HE	09/19/97	SO	Soil	S-6
E25828-7	09/16/97	12:50	HE	09/19/97	SO	Soil	S-7, STOCKPILE
E25828-8	09/16/97	14:00	HE	09/19/97	SO	Soil	S-8, STOCKPILE
E25828-9	09/16/97	14:10	HE	09/19/97	SO	Soil	S-9, STOCKPILE
E25828-10	09/16/97	14:20	HE	09/19/97	SO	Soil	S-10, STOCKPILE
E25828-11	09/16/97	15:50	HE	09/19/97	SO	Soil	S-11, 3-4'
E25828-12	09/17/97	08:30	HE	09/19/97	SO	Soil	S-12
E25828-13	09/17/97	09:45	HE	09/19/97	SO	Soil	S-13, NE CORNER

Sample Summary

(continued)

Eder Associates

Date: 10/07/97
Job No: E25828

Falls Poultry, Livingston Manor
Project No: 1482-26

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
E25828-14	09/17/97	10:05	HE	09/19/97	SO	Soil	S-14
E25828-15	09/17/97	11:50	HE	09/19/97	SO	Soil	S-15
E25828-16	09/17/97	13:00	HE	09/19/97	AQ	Ground Water	GW-1
E25828-17	09/17/97	13:40	HE	09/19/97	AQ	Ground Water	GW-2

ACCUTEST®

Report of Analysis

Client Sample ID: S-1, 3'-4'
Lab Sample ID: E25828-1
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 80.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7220.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2 [a]	K7224.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.2	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.79	ug/kg	
74-97-5	Bromochloromethane	ND	0.79	ug/kg	
75-27-4	Bromodichloromethane	ND	0.94	ug/kg	
75-25-2	Bromoform	ND	0.67	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.90	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.90	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.81	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.92	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.98	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-1, 3'-4'		
Lab Sample ID:	E25828-1	**Date Sampled:**	09/15/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	80.5
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7220.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2 [a]	K7224.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.6	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.56	ug/kg	
75-09-2	Methylene chloride	12.9	0.53	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.2	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.88	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.99	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.86	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.93	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%	110%	80-120%
2037-26-5	Toluene-D8	133%	106%	81-117%
460-00-4	4-Bromofluorobenzene	128%	150%	74-121%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: S-1, 3'-4'
Lab Sample ID: E25828-1
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 80.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14117.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	240	ug/kg	
88-75-5	2-Nitrophenol	ND	210	ug/kg	
100-02-7	4-Nitrophenol	ND	95	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	310	ug/kg	
83-32-9	Acenaphthene	ND	240	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	410	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	ug/kg	
50-32-8	Benzo(a)pyrene	35.9	280	ug/kg	J
205-99-2	Benzo(b)fluoranthene	48.6	200	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	115	140	ug/kg	J
207-08-9	Benzo(k)fluoranthene	56.0	240	ug/kg	J
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	350	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-1, 3'-4'		
Lab Sample ID:	E25828-1	**Date Sampled:**	09/15/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	80.5
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14117.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	74.4	250	ug/kg	J
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	45.1	170	ug/kg	J
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	ND	210	ug/kg	
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	95	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	89.5	120	ug/kg	J
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	220	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		25-121%
4165-62-2	Phenol-d5	72%		24-113%
118-79-6	2,4,6-Tribromophenol	82%		19-122%
4165-60-0	Nitrobenzene-d5	73%		23-120%
321-60-8	2-Fluorobiphenyl	73%		30-115%
1718-51-0	Terphenyl-d14	111%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-1, 3'-4'
Lab Sample ID: E25828-1
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 80.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03953.D	1	09/30/97	JMC	09/25/97	OP2637	GAB852
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	19	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	17	ug/kg	
53469-21-9	Aroclor 1242	ND	4.1	ug/kg	
12672-29-6	Aroclor 1248	ND	3.2	ug/kg	
11097-69-1	Aroclor 1254	ND	4.1	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	102%		30-150%
877-09-8	Tetrachloro-m-xylene	121%		30-150%
2051-24-3	Decachlorobiphenyl	94%		30-150%
2051-24-3	Decachlorobiphenyl	92%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: S-2
Lab Sample ID: E25828-2
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 81.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7089.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.2	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.79	ug/kg	
74-97-5	Bromochloromethane	ND	0.79	ug/kg	
75-27-4	Bromodichloromethane	ND	0.93	ug/kg	
75-25-2	Bromoform	ND	0.66	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.90	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.90	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.80	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.91	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.1	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.97	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-2
Lab Sample ID: E25828-2
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 81.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7089.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.5	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.55	ug/kg	
75-09-2	Methylene chloride	ND	0.53	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.2	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.87	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.98	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.85	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.92	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
2037-26-5	Toluene-D8	84%		81-117%
460-00-4	4-Bromofluorobenzene	93%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST.

Report of Analysis

Client Sample ID:	S-2		
Lab Sample ID:	E25828-2	**Date Sampled:**	09/15/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	81.3
Project:	Falls Poultry, Livingston Manor		

	File ID	**DF**	**Analyzed**	**By**	**Prep Date**	**Prep Batch**	**Analytical Batch**
Run #1	B9126.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	230	ug/kg	
88-75-5	2-Nitrophenol	ND	210	ug/kg	
100-02-7	4-Nitrophenol	ND	94	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	310	ug/kg	
83-32-9	Acenaphthene	ND	230	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	410	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	ug/kg	
50-32-8	Benzo(a)pyrene	ND	270	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	230	ug/kg	
85-68-7	Butyl benzyl phthalate	209	230	ug/kg	J
91-58-7	2-Chloronaphthalene	ND	250	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	350	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-2		
Lab Sample ID:	E25828-2	**Date Sampled:**	09/15/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	81.3
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9126.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg	
84-74-2	Di-n-butyl phthalate	64.9	180	ug/kg	J
117-84-0	Di-n-octyl phthalate	ND	170	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	211	270	ug/kg	J
206-44-0	Fluoranthene	ND	200	ug/kg	
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	94	ug/kg	
67-72-1	Hexachloroethane	ND	250	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	220	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		25-121%
4165-62-2	Phenol-d5	82%		24-113%
118-79-6	2,4,6-Tribromophenol	92%		19-122%
4165-60-0	Nitrobenzene-d5	73%		23-120%
321-60-8	2-Fluorobiphenyl	76%		30-115%
1718-51-0	Terphenyl-d14	96%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: S-2
Lab Sample ID: E25828-2
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 81.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15908.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	19	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	17	ug/kg	
53469-21-9	Aroclor 1242	ND	4.1	ug/kg	
12672-29-6	Aroclor 1248	ND	3.1	ug/kg	
11097-69-1	Aroclor 1254	ND	4.1	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	81%		30-150%
877-09-8	Tetrachloro-m-xylene	94%		30-150%
2051-24-3	Decachlorobiphenyl	108%		30-150%
2051-24-3	Decachlorobiphenyl	114%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-2
Lab Sample ID: E25828-2
Matrix: SO - Soil
Date Sampled: 09/15/97
Date Received: 09/19/97
Percent Solids: 81.3
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	3.3	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Barium	47.2	25	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Cadmium	2.0	0.62	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Chromium	28.0	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Lead	40.9	12	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Mercury	<0.12	0.12	mg/kg	1	09/22/97	09/22/97	PGC	SW846 7471A
Selenium	<12	12	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Silver	<1.2	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A

RDL = Reported Detection Limit

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Report of Analysis

Client Sample ID: S-3
Lab Sample ID: E25828-3
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 71.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7221.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	7.0	ug/kg	
71-43-2	Benzene	ND	1.4	ug/kg	
108-86-1	Bromobenzene	ND	0.89	ug/kg	
74-97-5	Bromochloromethane	ND	0.89	ug/kg	
75-27-4	Bromodichloromethane	ND	1.0	ug/kg	
75-25-2	Bromoform	ND	0.75	ug/kg	
104-51-8	n-Butylbenzene	ND	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.7	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	1.5	ug/kg	
75-00-3	Chloroethane	ND	1.5	ug/kg	
67-66-3	Chloroform	ND	1.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.90	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.7	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.1	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.2	ug/kg	
124-48-1	Dibromochloromethane	ND	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.3	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.1	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	1.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.8	ug/kg	
98-82-8	Isopropylbenzene	ND	1.7	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-3
Lab Sample ID: E25828-3
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 71.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7221.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	7.4	ug/kg	
74-83-9	Methyl bromide	ND	1.7	ug/kg	
74-87-3	Methyl chloride	ND	1.8	ug/kg	
74-95-3	Methylene bromide	ND	0.62	ug/kg	
75-09-2	Methylene chloride	16.2	0.60	ug/kg	
78-93-3	Methyl ethyl ketone	ND	7.0	ug/kg	
91-20-3	Naphthalene	ND	2.9	ug/kg	
103-65-1	n-Propylbenzene	ND	1.4	ug/kg	
100-42-5	Styrene	ND	1.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.99	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.96	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.2	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.2	ug/kg	
108-88-3	Toluene	ND	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	1.9	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.5	ug/kg	
75-01-4	Vinyl chloride	ND	1.3	ug/kg	
1330-20-7	Xylene (total)	ND	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		80-120%
2037-26-5	Toluene-D8	115%		81-117%
460-00-4	4-Bromofluorobenzene	119%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-3
Lab Sample ID: E25828-3
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 71.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14119.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	250	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	130	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	230	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	160	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	260	ug/kg	
88-75-5	2-Nitrophenol	ND	240	ug/kg	
100-02-7	4-Nitrophenol	ND	110	ug/kg	
87-86-5	Pentachlorophenol	ND	180	ug/kg	
108-95-2	Phenol	ND	190	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	350	ug/kg	
83-32-9	Acenaphthene	ND	260	ug/kg	
208-96-8	Acenaphthylene	ND	160	ug/kg	
120-12-7	Anthracene	ND	190	ug/kg	
92-87-5	Benzidine	ND	460	ug/kg	
56-55-3	Benzo(a)anthracene	ND	270	ug/kg	
50-32-8	Benzo(a)pyrene	ND	310	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	230	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	160	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	270	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	250	ug/kg	
218-01-9	Chrysene	ND	150	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	200	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	200	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	280	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	390	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	180	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	130	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	240	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	170	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-3		
Lab Sample ID:	E25828-3	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	71.8
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14119.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	280	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	200	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	190	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	210	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg	
206-44-0	Fluoranthene	ND	230	ug/kg	
86-73-7	Fluorene	ND	180	ug/kg	
118-74-1	Hexachlorobenzene	ND	200	ug/kg	
87-68-3	Hexachlorobutadiene	ND	180	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	110	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	130	ug/kg	
78-59-1	Isophorone	ND	130	ug/kg	
91-20-3	Naphthalene	ND	210	ug/kg	
98-95-3	Nitrobenzene	ND	160	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	200	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	230	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	210	ug/kg	
85-01-8	Phenanthrene	ND	180	ug/kg	
129-00-0	Pyrene	ND	240	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		25-121%
4165-62-2	Phenol-d5	73%		24-113%
118-79-6	2,4,6-Tribromophenol	84%		19-122%
4165-60-0	Nitrobenzene-d5	75%		23-120%
321-60-8	2-Fluorobiphenyl	77%		30-115%
1718-51-0	Terphenyl-d14	114%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: S-3
Lab Sample ID: E25828-3
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 71.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD21077.D	1	10/02/97	AH	09/25/97	OP2637	GCD957
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	22	ug/kg	
11104-28-2	Aroclor 1221	ND	14	ug/kg	
11141-16-5	Aroclor 1232	ND	19	ug/kg	
53469-21-9	Aroclor 1242	ND	4.6	ug/kg	
12672-29-6	Aroclor 1248	ND	3.5	ug/kg	
11097-69-1	Aroclor 1254	ND	4.6	ug/kg	
11096-82-5	Aroclor 1260	ND	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	115%		30-150%
877-09-8	Tetrachloro-m-xylene	94%		30-150%
2051-24-3	Decachlorobiphenyl	103%		30-150%
2051-24-3	Decachlorobiphenyl	105%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-3		
Lab Sample ID:	E25828-3	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	71.8
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	2.3	1.4	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	59.8	28	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.70	0.70	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	5.4	1.4	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	286	14	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.13	0.13	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<14	14	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.4	1.4	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

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Report of Analysis

Client Sample ID: S-4
Lab Sample ID: E25828-4
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 46.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7222.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	11	ug/kg	
71-43-2	Benzene	ND	2.2	ug/kg	
108-86-1	Bromobenzene	ND	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	1.6	ug/kg	
75-25-2	Bromoform	ND	1.2	ug/kg	
104-51-8	n-Butylbenzene	ND	2.6	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	ug/kg	
75-00-3	Chloroethane	ND	2.4	ug/kg	
67-66-3	Chloroform	ND	1.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	3.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.7	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.6	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.7	ug/kg	
594-20-7	2,2-Dichloropropane	ND	3.4	ug/kg	
124-48-1	Dibromochloromethane	ND	1.6	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.7	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.7	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.6	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	ug/kg	
100-41-4	Ethylbenzene	ND	2.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	2.6	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-4
Lab Sample ID: E25828-4
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 46.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7222.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	2.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	ug/kg	
74-83-9	Methyl bromide	ND	2.6	ug/kg	
74-87-3	Methyl chloride	ND	2.8	ug/kg	
74-95-3	Methylene bromide	ND	0.97	ug/kg	
75-09-2	Methylene chloride	17.4	0.93	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	ug/kg	
91-20-3	Naphthalene	ND	4.5	ug/kg	
103-65-1	n-Propylbenzene	ND	2.2	ug/kg	
100-42-5	Styrene	ND	1.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	1.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.9	ug/kg	
108-88-3	Toluene	ND	1.9	ug/kg	
79-01-6	Trichloroethylene	ND	3.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.4	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		80-120%
2037-26-5	Toluene-D8	115%		81-117%
460-00-4	4-Bromofluorobenzene	115%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 2

Client Sample ID: S-4
Lab Sample ID: E25828-4
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 46.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14120.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	390	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	210	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	260	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	350	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	250	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	410	ug/kg	
88-75-5	2-Nitrophenol	ND	370	ug/kg	
100-02-7	4-Nitrophenol	ND	160	ug/kg	
87-86-5	Pentachlorophenol	ND	290	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	ND	410	ug/kg	
208-96-8	Acenaphthylene	ND	240	ug/kg	
120-12-7	Anthracene	ND	300	ug/kg	
92-87-5	Benzidine	ND	720	ug/kg	
56-55-3	Benzo(a)anthracene	ND	420	ug/kg	
50-32-8	Benzo(a)pyrene	ND	480	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	350	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	240	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	420	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	410	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	410	ug/kg	
91-58-7	2-Chloronaphthalene	ND	440	ug/kg	
106-47-8	4-Chloroaniline	ND	390	ug/kg	
218-01-9	Chrysene	ND	230	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	360	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	430	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	610	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	280	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	490	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	210	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	360	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	260	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-4
Lab Sample ID: E25828-4
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 46.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14120.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	430	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	460	ug/kg	
131-11-3	Dimethyl phthalate	ND	330	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	470	ug/kg	
206-44-0	Fluoranthene	ND	360	ug/kg	
86-73-7	Fluorene	ND	280	ug/kg	
118-74-1	Hexachlorobenzene	ND	310	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	160	ug/kg	
67-72-1	Hexachloroethane	ND	440	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	210	ug/kg	
78-59-1	Isophorone	ND	210	ug/kg	
91-20-3	Naphthalene	ND	320	ug/kg	
98-95-3	Nitrobenzene	ND	240	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	310	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	350	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	330	ug/kg	
85-01-8	Phenanthrene	ND	280	ug/kg	
129-00-0	Pyrene	ND	380	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	77%		25-121%
4165-62-2	Phenol-d5	80%		24-113%
118-79-6	2,4,6-Tribromophenol	85%		19-122%
4165-60-0	Nitrobenzene-d5	80%		23-120%
321-60-8	2-Fluorobiphenyl	80%		30-115%
1718-51-0	Terphenyl-d14	114%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID:	S-4		
Lab Sample ID:	E25828-4	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8080	**Percent Solids:**	46.3
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03955.D	1	09/30/97	JMC	09/25/97	OP2637	GAB852
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	ug/kg	
11104-28-2	Aroclor 1221	ND	21	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	7.1	ug/kg	
12672-29-6	Aroclor 1248	ND	5.5	ug/kg	
11097-69-1	Aroclor 1254	ND	7.1	ug/kg	
11096-82-5	Aroclor 1260	ND	27	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		30-150%
877-09-8	Tetrachloro-m-xylene	115%		30-150%
2051-24-3	Decachlorobiphenyl	67%		30-150%
2051-24-3	Decachlorobiphenyl	71%		30-150%

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-4
Lab Sample ID: E25828-4
Matrix: SO - Soil
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 46.3
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	3.4	2.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	99.4	43	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<1.1	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	11.3	2.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	42.2	22	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.17	0.17	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<22	22	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<2.2	2.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

ACCUTEST.

Report of Analysis

Client Sample ID: S-5, STOCKPILE
Lab Sample ID: E25828-5
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 76.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7223.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.9	ug/kg	
74-83-9	Methyl bromide	ND	1.6	ug/kg	
74-87-3	Methyl chloride	ND	1.7	ug/kg	
74-95-3	Methylene bromide	ND	0.59	ug/kg	
75-09-2	Methylene chloride	15.0	0.56	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.6	ug/kg	
91-20-3	Naphthalene	ND	2.8	ug/kg	
103-65-1	n-Propylbenzene	ND	1.3	ug/kg	
100-42-5	Styrene	ND	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.93	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.90	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.98	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.2	ug/kg	
108-88-3	Toluene	ND	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.3	ug/kg	
1330-20-7	Xylene (total)	ND	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		80-120%
2037-26-5	Toluene-D8	111%		81-117%
460-00-4	4-Bromofluorobenzene	114%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID:	S-5, STOCKPILE		
Lab Sample ID:	E25828-5	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	76.4
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14198.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	230	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	160	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	210	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	150	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	250	ug/kg	
88-75-5	2-Nitrophenol	ND	220	ug/kg	
100-02-7	4-Nitrophenol	ND	99	ug/kg	
87-86-5	Pentachlorophenol	ND	170	ug/kg	
108-95-2	Phenol	ND	180	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	330	ug/kg	
83-32-9	Acenaphthene	ND	250	ug/kg	
208-96-8	Acenaphthylene	ND	150	ug/kg	
120-12-7	Anthracene	ND	180	ug/kg	
92-87-5	Benzidine	ND	430	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	210	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	150	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	250	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	250	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	230	ug/kg	
218-01-9	Chrysene	ND	140	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	190	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	220	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	260	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	370	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	220	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	160	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-5, STOCKPILE		
Lab Sample ID:	E25828-5	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	76.4
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14198.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	260	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	190	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	ug/kg	
84-66-2	Diethyl phthalate	ND	280	ug/kg	
131-11-3	Dimethyl phthalate	ND	200	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg	
206-44-0	Fluoranthene	ND	220	ug/kg	
86-73-7	Fluorene	ND	170	ug/kg	
118-74-1	Hexachlorobenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	170	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	99	ug/kg	
67-72-1	Hexachloroethane	ND	270	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	190	ug/kg	
98-95-3	Nitrobenzene	ND	150	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	190	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	210	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	200	ug/kg	
85-01-8	Phenanthrene	26.9	170	ug/kg	J
129-00-0	Pyrene	ND	230	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	82%		25-121%
4165-62-2	Phenol-d5	85%		24-113%
118-79-6	2,4,6-Tribromophenol	86%		19-122%
4165-60-0	Nitrobenzene-d5	86%		23-120%
321-60-8	2-Fluorobiphenyl	80%		30-115%
1718-51-0	Terphenyl-d14	110%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-5, STOCKPILE
Lab Sample ID: E25828-5
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 76.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD21078.D	1	10/02/97	AH	09/25/97	OP2637	GCD957
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	ug/kg	
11104-28-2	Aroclor 1221	ND	13	ug/kg	
11141-16-5	Aroclor 1232	ND	18	ug/kg	
53469-21-9	Aroclor 1242	ND	4.4	ug/kg	
12672-29-6	Aroclor 1248	ND	3.4	ug/kg	
11097-69-1	Aroclor 1254	ND	4.4	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		30-150%
877-09-8	Tetrachloro-m-xylene	94%		30-150%
2051-24-3	Decachlorobiphenyl	100%		30-150%
2051-24-3	Decachlorobiphenyl	103%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Page 1 of 1

Client Sample ID: S-5, STOCKPILE
Lab Sample ID: E25828-5
Matrix: SO - Soil
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 76.4
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	2.4	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	49.0	26	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.65	0.65	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	6.1	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	26.2	13	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.12	0.12	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<13	13	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.3	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7254.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.3	ug/kg	
71-43-2	Benzene	ND	1.3	ug/kg	
108-86-1	Bromobenzene	ND	0.81	ug/kg	
74-97-5	Bromochloromethane	ND	0.81	ug/kg	
75-27-4	Bromodichloromethane	ND	0.96	ug/kg	
75-25-2	Bromoform	ND	0.68	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.3	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.92	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.92	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.82	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.93	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7254.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.7	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.57	ug/kg	
75-09-2	Methylene chloride	ND	0.54	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.3	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.3	ug/kg	
100-42-5	Styrene	ND	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.89	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.87	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		80-120%
2037-26-5	Toluene-D8	109%		81-117%
460-00-4	4-Bromofluorobenzene	111%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14199.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2 ^{a}	H14172.D	5	10/01/97	JYZ	09/25/97	OP2636	EH490

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	230	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	160	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	150	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	240	ug/kg	
88-75-5	2-Nitrophenol	ND	220	ug/kg	
100-02-7	4-Nitrophenol	ND	97	ug/kg	
87-86-5	Pentachlorophenol	ND	170	ug/kg	
108-95-2	Phenol	ND	180	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	320	ug/kg	
83-32-9	Acenaphthene	ND	240	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	180	ug/kg	
92-87-5	Benzidine	ND	420	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	230	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	360	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14199.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2 [a]	H14172.D	5	10/01/97	JYZ	09/25/97	OP2636	EH490

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	152	280	ug/kg	J
206-44-0	Fluoranthene	ND	210	ug/kg	
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	97	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	190	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	220	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%	64%	25-121%
4165-62-2	Phenol-d5	84%	70%	24-113%
118-79-6	2,4,6-Tribromophenol	94%	64%	19-122%
4165-60-0	Nitrobenzene-d5	88%	79%	23-120%
321-60-8	2-Fluorobiphenyl	82%	73%	30-115%
1718-51-0	Terphenyl-d14	133%	86%	18-137%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03957.D	1	09/30/97	JMC	09/25/97	OP2637	GAB852
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	ug/kg	
11104-28-2	Aroclor 1221	ND	13	ug/kg	
11141-16-5	Aroclor 1232	ND	18	ug/kg	
53469-21-9	Aroclor 1242	ND	4.2	ug/kg	
12672-29-6	Aroclor 1248	ND	3.2	ug/kg	
11097-69-1	Aroclor 1254	ND	4.2	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		30-150%
877-09-8	Tetrachloro-m-xylene	89%		30-150%
2051-24-3	Decachlorobiphenyl	78%		30-150%
2051-24-3	Decachlorobiphenyl	86%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-6
Lab Sample ID: E25828-6
Matrix: SO - Soil

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.3

Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	< 1.3	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	35.4	25	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	< 0.63	0.63	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	4.2	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	< 13	13	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	< 0.13	0.13	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	< 13	13	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	< 1.3	1.3	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID:	S-7, STOCKPILE		
Lab Sample ID:	E25828-7	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	90.9
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7255.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7226.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.5	ug/kg	
71-43-2	Benzene	ND	1.1	ug/kg	
108-86-1	Bromobenzene	ND	0.70	ug/kg	
74-97-5	Bromochloromethane	ND	0.70	ug/kg	
75-27-4	Bromodichloromethane	ND	0.84	ug/kg	
75-25-2	Bromoform	ND	0.59	ug/kg	
104-51-8	n-Butylbenzene	ND	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	1.2	ug/kg	
75-00-3	Chloroethane	ND	1.2	ug/kg	
67-66-3	Chloroform	ND	0.80	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.80	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.72	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.89	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.8	ug/kg	
124-48-1	Dibromochloromethane	ND	0.81	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.92	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.87	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.89	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	1.3	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-7, STOCKPILE
Lab Sample ID: E25828-7
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 90.9

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7255.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7226.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.3	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	5.8	ug/kg	
74-83-9	Methyl bromide	ND	1.3	ug/kg	
74-87-3	Methyl chloride	ND	1.4	ug/kg	
74-95-3	Methylene bromide	ND	0.50	ug/kg	
75-09-2	Methylene chloride	ND	0.47	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.5	ug/kg	
91-20-3	Naphthalene	ND	2.3	ug/kg	
103-65-1	n-Propylbenzene	ND	1.1	ug/kg	
100-42-5	Styrene	ND	0.94	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.88	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.76	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.94	ug/kg	
127-18-4	Tetrachloroethylene	ND	0.99	ug/kg	
108-88-3	Toluene	ND	0.98	ug/kg	
79-01-6	Trichloroethylene	ND	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%	114%	80-120%
2037-26-5	Toluene-D8	108%	108%	81-117%
460-00-4	4-Bromofluorobenzene	138%	148%	74-121%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID:	S-7, STOCKPILE		
Lab Sample ID:	E25828-7	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	90.9
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14200.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	110	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	210	ug/kg	
88-75-5	2-Nitrophenol	ND	190	ug/kg	
100-02-7	4-Nitrophenol	ND	84	ug/kg	
87-86-5	Pentachlorophenol	ND	150	ug/kg	
108-95-2	Phenol	ND	150	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	280	ug/kg	
83-32-9	Acenaphthene	ND	210	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
120-12-7	Anthracene	ND	150	ug/kg	
92-87-5	Benzidine	ND	370	ug/kg	
56-55-3	Benzo(a)anthracene	ND	220	ug/kg	
50-32-8	Benzo(a)pyrene	ND	240	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	180	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	220	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	210	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	210	ug/kg	
91-58-7	2-Chloronaphthalene	ND	230	ug/kg	
106-47-8	4-Chloroaniline	ND	200	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	160	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	160	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	220	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	140	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	250	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	150	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	110	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	130	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-7, STOCKPILE
Lab Sample ID: E25828-7
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 90.9

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14200.D	1	10/02/97	JYZ	09/25/97	OP2636	EH491
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	220	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	160	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	150	ug/kg	
84-66-2	Diethyl phthalate	ND	230	ug/kg	
131-11-3	Dimethyl phthalate	ND	170	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	240	ug/kg	
206-44-0	Fluoranthene	ND	180	ug/kg	
86-73-7	Fluorene	ND	140	ug/kg	
118-74-1	Hexachlorobenzene	ND	160	ug/kg	
87-68-3	Hexachlorobutadiene	ND	140	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	84	ug/kg	
67-72-1	Hexachloroethane	ND	230	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	110	ug/kg	
91-20-3	Naphthalene	ND	160	ug/kg	
98-95-3	Nitrobenzene	ND	120	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	160	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	ug/kg	
85-01-8	Phenanthrene	ND	140	ug/kg	
129-00-0	Pyrene	ND	190	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		25-121%
4165-62-2	Phenol-d5	68%		24-113%
118-79-6	2,4,6-Tribromophenol	68%		19-122%
4165-60-0	Nitrobenzene-d5	81%		23-120%
321-60-8	2-Fluorobiphenyl	75%		30-115%
1718-51-0	Terphenyl-d14	85%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: S-7, STOCKPILE
Lab Sample ID: E25828-7
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 90.9

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03958.D	1	09/30/97	JMC	09/25/97	OP2637	GAB852
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	17	ug/kg	
11104-28-2	Aroclor 1221	ND	11	ug/kg	
11141-16-5	Aroclor 1232	ND	15	ug/kg	
53469-21-9	Aroclor 1242	ND	3.6	ug/kg	
12672-29-6	Aroclor 1248	ND	2.8	ug/kg	
11097-69-1	Aroclor 1254	ND	3.6	ug/kg	
11096-82-5	Aroclor 1260	ND	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		30-150%
877-09-8	Tetrachloro-m-xylene	114%		30-150%
2051-24-3	Decachlorobiphenyl	71%		30-150%
2051-24-3	Decachlorobiphenyl	81%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	S-7, STOCKPILE		
Lab Sample ID:	E25828-7	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	90.9
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	2.7	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	56.0	22	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.55	0.55	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	5.6	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	12.4	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.11	0.11	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<11	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.1	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

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Report of Analysis

Client Sample ID: S-8, STOCKPILE
Lab Sample ID: E25828-8
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 80.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7227.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.2	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.80	ug/kg	
74-97-5	Bromochloromethane	ND	0.80	ug/kg	
75-27-4	Bromodichloromethane	ND	0.95	ug/kg	
75-25-2	Bromoform	ND	0.68	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.91	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.91	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.81	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.92	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.99	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-8, STOCKPILE
Lab Sample ID: E25828-8
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 80.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7227.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.6	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.56	ug/kg	
75-09-2	Methylene chloride	13.1	0.54	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.2	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.89	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.86	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		80-120%
2037-26-5	Toluene-D8	113%		81-117%
460-00-4	4-Bromofluorobenzene	116%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-8, STOCKPILE
Lab Sample ID: E25828-8
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 80.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14121.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	230	ug/kg	
88-75-5	2-Nitrophenol	ND	210	ug/kg	
100-02-7	4-Nitrophenol	ND	95	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	310	ug/kg	
83-32-9	Acenaphthene	ND	230	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	410	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	ug/kg	
50-32-8	Benzo(a)pyrene	ND	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	230	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	230	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	350	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-8, STOCKPILE
Lab Sample ID: E25828-8
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 80.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14121.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	ND	210	ug/kg	
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	95	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	220	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	58%		25-121%
4165-62-2	Phenol-d5	63%		24-113%
118-79-6	2,4,6-Tribromophenol	81%		19-122%
4165-60-0	Nitrobenzene-d5	60%		23-120%
321-60-8	2-Fluorobiphenyl	70%		30-115%
1718-51-0	Terphenyl-d14	112%		18-137%

ND = Not detected
RDL = Reported Detection Limit
[illegible]

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
[illegible]

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Report of Analysis

Client Sample ID: S-9, STOCKPILE
Lab Sample ID: E25828-9
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 83.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7228.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.0	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.77	ug/kg	
74-97-5	Bromochloromethane	ND	0.77	ug/kg	
75-27-4	Bromodichloromethane	ND	0.91	ug/kg	
75-25-2	Bromoform	ND	0.65	ug/kg	
104-51-8	n-Butylbenzene	ND	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.3	ug/kg	
75-00-3	Chloroethane	ND	1.3	ug/kg	
67-66-3	Chloroform	ND	0.88	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.88	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.78	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.97	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.9	ug/kg	
124-48-1	Dibromochloromethane	ND	0.89	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.1	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.95	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.97	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.4	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-9, STOCKPILE
Lab Sample ID: E25828-9 **Date Sampled:** 09/16/97
Matrix: SO - Soil **Date Received:** 09/19/97
Method: SW846 8260 **Percent Solids:** 83.6
Project: Falls Poultry, Livingston Manor

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7228.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.4	ug/kg	
74-83-9	Methyl bromide	ND	1.4	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.54	ug/kg	
75-09-2	Methylene chloride	13.1	0.52	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.0	ug/kg	
91-20-3	Naphthalene	ND	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.85	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.96	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.83	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.90	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.3	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		80-120%
2037-26-5	Toluene-D8	114%		81-117%
460-00-4	4-Bromofluorobenzene	116%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-9, STOCKPILE
Lab Sample ID: E25828-9
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 83.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14122.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	210	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	110	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	220	ug/kg	
88-75-5	2-Nitrophenol	ND	200	ug/kg	
100-02-7	4-Nitrophenol	ND	91	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	300	ug/kg	
83-32-9	Acenaphthene	ND	220	ug/kg	
208-96-8	Acenaphthylene	ND	130	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	230	ug/kg	
50-32-8	Benzo(a)pyrene	ND	260	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	190	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	230	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	220	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	220	ug/kg	
91-58-7	2-Chloronaphthalene	ND	240	ug/kg	
106-47-8	4-Chloroaniline	ND	210	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	170	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	340	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	110	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID:	S-9, STOCKPILE		
Lab Sample ID:	E25828-9	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	83.6
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14122.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	170	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	160	ug/kg	
84-66-2	Diethyl phthalate	ND	250	ug/kg	
131-11-3	Dimethyl phthalate	ND	180	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	29.9	200	ug/kg	J
86-73-7	Fluorene	ND	150	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	150	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	91	ug/kg	
67-72-1	Hexachloroethane	ND	240	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	110	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	130	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	170	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	190	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	ug/kg	
85-01-8	Phenanthrene	ND	150	ug/kg	
129-00-0	Pyrene	ND	210	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		25-121%
4165-62-2	Phenol-d5	70%		24-113%
118-79-6	2,4,6-Tribromophenol	78%		19-122%
4165-60-0	Nitrobenzene-d5	70%		23-120%
321-60-8	2-Fluorobiphenyl	72%		30-115%
1718-51-0	Terphenyl-d14	111%		18-137%

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-9, STOCKPILE
Lab Sample ID: E25828-9
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 83.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03966.D	1	10/01/97	JMC	09/25/97	OP2637	GAB853
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	19	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	17	ug/kg	
53469-21-9	Aroclor 1242	ND	4.0	ug/kg	
12672-29-6	Aroclor 1248	ND	3.1	ug/kg	
11097-69-1	Aroclor 1254	ND	4.0	ug/kg	
11096-82-5	Aroclor 1260	ND	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		30-150%
877-09-8	Tetrachloro-m-xylene	118%		30-150%
2051-24-3	Decachlorobiphenyl	114%		30-150%
2051-24-3	Decachlorobiphenyl	114%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-9, STOCKPILE
Lab Sample ID: E25828-9
Matrix: SO - Soil

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 83.6

Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	2.0	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	48.1	24	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.60	0.60	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	4.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	<12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.12	0.12	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7229.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.3	ug/kg	
71-43-2	Benzene	ND	1.3	ug/kg	
108-86-1	Bromobenzene	ND	0.81	ug/kg	
74-97-5	Bromochloromethane	ND	0.81	ug/kg	
75-27-4	Bromodichloromethane	ND	0.96	ug/kg	
75-25-2	Bromoform	ND	0.68	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.3	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.92	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.92	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.82	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.93	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7229.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.7	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.57	ug/kg	
75-09-2	Methylene chloride	14.1	0.54	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.3	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.3	ug/kg	
100-42-5	Styrene	ND	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.89	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.87	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		80-120%
2037-26-5	Toluene-D8	111%		81-117%
460-00-4	4-Bromofluorobenzene	117%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14114.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	240	ug/kg	
88-75-5	2-Nitrophenol	ND	220	ug/kg	
100-02-7	4-Nitrophenol	ND	96	ug/kg	
87-86-5	Pentachlorophenol	ND	170	ug/kg	
108-95-2	Phenol	ND	180	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	320	ug/kg	
83-32-9	Acenaphthene	ND	240	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	180	ug/kg	
92-87-5	Benzidine	ND	420	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	350	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14114.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg	
206-44-0	Fluoranthene	41.3	210	ug/kg	J
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	96	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	190	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	20.4	160	ug/kg	J
129-00-0	Pyrene	57.6	220	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		25-121%
4165-62-2	Phenol-d5	68%		24-113%
118-79-6	2,4,6-Tribromophenol	78%		19-122%
4165-60-0	Nitrobenzene-d5	74%		23-120%
321-60-8	2-Fluorobiphenyl	71%		30-115%
1718-51-0	Terphenyl-d14	115%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03967.D	1	10/01/97	JMC	09/25/97	OP2637	GAB853
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	18	ug/kg	
53469-21-9	Aroclor 1242	ND	4.2	ug/kg	
12672-29-6	Aroclor 1248	ND	3.2	ug/kg	
11097-69-1	Aroclor 1254	ND	4.2	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		30-150%
877-09-8	Tetrachloro-m-xylene	122%		30-150%
2051-24-3	Decachlorobiphenyl	133%		30-150%
2051-24-3	Decachlorobiphenyl	120%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-10, STOCKPILE
Lab Sample ID: E25828-10
Matrix: SO - Soil
Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 79.6
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	< 1.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	41.4	25	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	< 0.63	0.63	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	6.1	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	15.0	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	< 0.12	0.12	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	< 12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	< 1.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: S-11, 3-4'
Lab Sample ID: E25828-11
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 87.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7256.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7259.D	1	09/30/97	YD	n/a	n/a	VK557

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.8	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.74	ug/kg	
74-97-5	Bromochloromethane	ND	0.74	ug/kg	
75-27-4	Bromodichloromethane	ND	0.87	ug/kg	
75-25-2	Bromoform	ND	0.62	ug/kg	
104-51-8	n-Butylbenzene	ND	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.3	ug/kg	
75-00-3	Chloroethane	ND	1.3	ug/kg	
67-66-3	Chloroform	ND	0.84	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.84	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.75	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.93	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.8	ug/kg	
124-48-1	Dibromochloromethane	ND	0.85	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.1	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.97	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.91	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.93	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.5	ug/kg	
98-82-8	Isopropylbenzene	ND	1.4	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-11, 3-4'		
Lab Sample ID:	E25828-11	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	87.3
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7256.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7259.D	1	09/30/97	YD	n/a	n/a	VK557

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.1	ug/kg	
74-83-9	Methyl bromide	ND	1.4	ug/kg	
74-87-3	Methyl chloride	ND	1.5	ug/kg	
74-95-3	Methylene bromide	ND	0.52	ug/kg	
75-09-2	Methylene chloride	ND	0.49	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.8	ug/kg	
91-20-3	Naphthalene	ND	2.4	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	0.98	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.92	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.79	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.86	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.98	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.0	ug/kg	
108-88-3	Toluene	ND	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.3	ug/kg	
75-01-4	Vinyl chloride	ND	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%	104%	80-120%
2037-26-5	Toluene-D8	111%	102%	81-117%
460-00-4	4-Bromofluorobenzene	158%	145%	74-121%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-11, 3-4'
Lab Sample ID: E25828-11
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 87.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14123.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	110	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	220	ug/kg	
88-75-5	2-Nitrophenol	ND	200	ug/kg	
100-02-7	4-Nitrophenol	ND	87	ug/kg	
87-86-5	Pentachlorophenol	ND	150	ug/kg	
108-95-2	Phenol	ND	160	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	290	ug/kg	
83-32-9	Acenaphthene	ND	220	ug/kg	
208-96-8	Acenaphthylene	ND	130	ug/kg	
120-12-7	Anthracene	ND	160	ug/kg	
92-87-5	Benzidine	ND	380	ug/kg	
56-55-3	Benzo(a)anthracene	80.9	220	ug/kg	J
50-32-8	Benzo(a)pyrene	77.2	250	ug/kg	J
205-99-2	Benzo(b)fluoranthene	76.9	180	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	62.0	130	ug/kg	J
207-08-9	Benzo(k)fluoranthene	72.1	220	ug/kg	J
101-55-3	4-Bromophenyl phenyl ether	ND	220	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	220	ug/kg	
91-58-7	2-Chloronaphthalene	ND	230	ug/kg	
106-47-8	4-Chloroaniline	ND	200	ug/kg	
218-01-9	Chrysene	98.7	120	ug/kg	J
111-91-1	bis(2-Chloroethoxy)methane	ND	170	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	160	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	230	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	160	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	110	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-11, 3-4'
Lab Sample ID: E25828-11
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/16/97
Date Received: 09/19/97
Percent Solids: 87.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14123.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	230	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	170	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	150	ug/kg	
84-66-2	Diethyl phthalate	ND	240	ug/kg	
131-11-3	Dimethyl phthalate	ND	170	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	250	ug/kg	
206-44-0	Fluoranthene	157	190	ug/kg	J
86-73-7	Fluorene	ND	150	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	150	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	87	ug/kg	
67-72-1	Hexachloroethane	ND	230	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	44.8	110	ug/kg	J
78-59-1	Isophorone	ND	110	ug/kg	
91-20-3	Naphthalene	ND	170	ug/kg	
98-95-3	Nitrobenzene	ND	130	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	170	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	ug/kg	
85-01-8	Phenanthrene	65.1	150	ug/kg	J
129-00-0	Pyrene	169	200	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	ND	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%		25-121%
4165-62-2	Phenol-d5	74%		24-113%
118-79-6	2,4,6-Tribromophenol	73%		19-122%
4165-60-0	Nitrobenzene-d5	80%		23-120%
321-60-8	2-Fluorobiphenyl	75%		30-115%
1718-51-0	Terphenyl-d14	98%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Page 1 of 1

Client Sample ID:	S-11, 3-4'		
Lab Sample ID:	E25828-11	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8080	**Percent Solids:**	87.3
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03968.D	1	10/01/97	JMC	09/25/97	OP2637	GAB853
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	18	ug/kg	
11104-28-2	Aroclor 1221	ND	11	ug/kg	
11141-16-5	Aroclor 1232	ND	16	ug/kg	
53469-21-9	Aroclor 1242	ND	3.8	ug/kg	
12672-29-6	Aroclor 1248	ND	2.9	ug/kg	
11097-69-1	Aroclor 1254	ND	3.8	ug/kg	
11096-82-5	Aroclor 1260	ND	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		30-150%
877-09-8	Tetrachloro-m-xylene	123%		30-150%
2051-24-3	Decachlorobiphenyl	137%		30-150%
2051-24-3	Decachlorobiphenyl	138%		30-150%

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-11, 3-4'		
Lab Sample ID:	E25828-11	**Date Sampled:**	09/16/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	87.3
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	**Result**	**RDL**	**Units**	**DF**	**Prep**	**Analyzed**	**By**	**Method**
Arsenic	2.5	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	57.7	23	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	1.0	0.57	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	10.4	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	64.8	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.11	0.11	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<11	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.1	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

ACCUTEST

Report of Analysis

Client Sample ID:	S-12	**Date Sampled:**	09/17/97
Lab Sample ID:	E25828-12	**Date Received:**	09/19/97
Matrix:	SO - Soil	**Percent Solids:**	72.2
Method:	SW846 8260		
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7095.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	7.0	ug/kg	
71-43-2	Benzene	ND	1.4	ug/kg	
108-86-1	Bromobenzene	ND	0.89	ug/kg	
74-97-5	Bromochloromethane	ND	0.89	ug/kg	
75-27-4	Bromodichloromethane	ND	1.0	ug/kg	
75-25-2	Bromoform	ND	0.75	ug/kg	
104-51-8	n-Butylbenzene	ND	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.7	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	1.5	ug/kg	
75-00-3	Chloroethane	ND	1.5	ug/kg	
67-66-3	Chloroform	ND	1.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.90	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.7	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.1	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.2	ug/kg	
124-48-1	Dibromochloromethane	ND	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.3	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.1	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	1.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.8	ug/kg	
98-82-8	Isopropylbenzene	ND	1.7	ug/kg	

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-12
Lab Sample ID: E25828-12
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 72.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7095.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	7.4	ug/kg	
74-83-9	Methyl bromide	ND	1.7	ug/kg	
74-87-3	Methyl chloride	ND	1.8	ug/kg	
74-95-3	Methylene bromide	ND	0.62	ug/kg	
75-09-2	Methylene chloride	ND	0.60	ug/kg	
78-93-3	Methyl ethyl ketone	ND	7.0	ug/kg	
91-20-3	Naphthalene	ND	2.9	ug/kg	
103-65-1	n-Propylbenzene	ND	1.4	ug/kg	
100-42-5	Styrene	ND	1.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.99	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.96	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.5	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.2	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.2	ug/kg	
108-88-3	Toluene	ND	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	1.9	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.5	ug/kg	
75-01-4	Vinyl chloride	ND	1.3	ug/kg	
1330-20-7	Xylene (total)	ND	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		80-120%
2037-26-5	Toluene-D8	84%		81-117%
460-00-4	4-Bromofluorobenzene	98%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-12
Lab Sample ID: E25828-12
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 72.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9127.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	250	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	130	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	230	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	160	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	260	ug/kg	
88-75-5	2-Nitrophenol	ND	240	ug/kg	
100-02-7	4-Nitrophenol	ND	110	ug/kg	
87-86-5	Pentachlorophenol	ND	180	ug/kg	
108-95-2	Phenol	ND	190	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	350	ug/kg	
83-32-9	Acenaphthene	39.4	260	ug/kg	J
208-96-8	Acenaphthylene	ND	160	ug/kg	
120-12-7	Anthracene	224	190	ug/kg	
92-87-5	Benzidine	ND	460	ug/kg	
56-55-3	Benzo(a)anthracene	867	270	ug/kg	
50-32-8	Benzo(a)pyrene	842	310	ug/kg	
205-99-2	Benzo(b)fluoranthene	803	230	ug/kg	
191-24-2	Benzo(g,h,i)perylene	559	160	ug/kg	
207-08-9	Benzo(k)fluoranthene	704	270	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	250	ug/kg	
218-01-9	Chrysene	1010	150	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	200	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	200	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	280	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	390	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	180	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	130	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	240	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	170	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-12
Lab Sample ID: E25828-12
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 72.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9127.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	286	280	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	200	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	190	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	210	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	435	300	ug/kg	
206-44-0	Fluoranthene	2170	230	ug/kg	
86-73-7	Fluorene	54.7	180	ug/kg	J
118-74-1	Hexachlorobenzene	ND	200	ug/kg	
87-68-3	Hexachlorobutadiene	ND	180	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	110	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	536	130	ug/kg	
78-59-1	Isophorone	ND	130	ug/kg	
91-20-3	Naphthalene	ND	210	ug/kg	
98-95-3	Nitrobenzene	ND	160	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	200	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	230	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	210	ug/kg	
85-01-8	Phenanthrene	851	180	ug/kg	
129-00-0	Pyrene	1780	240	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		25-121%
4165-62-2	Phenol-d5	84%		24-113%
118-79-6	2,4,6-Tribromophenol	92%		19-122%
4165-60-0	Nitrobenzene-d5	71%		23-120%
321-60-8	2-Fluorobiphenyl	75%		30-115%
1718-51-0	Terphenyl-d14	96%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	S-12		
Lab Sample ID:	E25828-12	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8080	**Percent Solids:**	72.2
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15903.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	22	ug/kg	
11104-28-2	Aroclor 1221	ND	14	ug/kg	
11141-16-5	Aroclor 1232	ND	19	ug/kg	
53469-21-9	Aroclor 1242	ND	4.6	ug/kg	
12672-29-6	Aroclor 1248	ND	3.5	ug/kg	
11097-69-1	Aroclor 1254	ND	4.6	ug/kg	
11096-82-5	Aroclor 1260	ND	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	59%		30-150%
877-09-8	Tetrachloro-m-xylene	62%		30-150%
2051-24-3	Decachlorobiphenyl	87%		30-150%
2051-24-3	Decachlorobiphenyl	86%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID: S-12
Lab Sample ID: E25828-12
Matrix: SO - Soil

Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 72.2

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	4.1	1.4	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Barium	83.4	28	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Cadmium	<0.69	0.69	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Chromium	7.7	1.4	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Lead	55.0	14	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Mercury	<0.14	0.14	mg/kg	1	09/22/97	09/22/97	PGC	SW846 7471A
Selenium	<14	14	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Silver	<1.4	1.4	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7257.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7236.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.6	ug/kg	
71-43-2	Benzene	ND	1.1	ug/kg	
108-86-1	Bromobenzene	ND	0.72	ug/kg	
74-97-5	Bromochloromethane	ND	0.72	ug/kg	
75-27-4	Bromodichloromethane	ND	0.85	ug/kg	
75-25-2	Bromoform	ND	0.60	ug/kg	
104-51-8	n-Butylbenzene	ND	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	1.2	ug/kg	
75-00-3	Chloroethane	ND	1.2	ug/kg	
67-66-3	Chloroform	ND	0.82	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.82	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.73	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.91	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.8	ug/kg	
124-48-1	Dibromochloromethane	ND	0.83	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.94	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.88	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.91	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	1.3	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7257.D	1	09/30/97	YD	n/a	n/a	VK557
Run #2 [a]	K7236.D	1	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.3	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	5.9	ug/kg	
74-83-9	Methyl bromide	ND	1.3	ug/kg	
74-87-3	Methyl chloride	ND	1.4	ug/kg	
74-95-3	Methylene bromide	ND	0.50	ug/kg	
75-09-2	Methylene chloride	ND	0.48	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.6	ug/kg	
91-20-3	Naphthalene	ND	2.4	ug/kg	
103-65-1	n-Propylbenzene	ND	1.1	ug/kg	
100-42-5	Styrene	ND	0.95	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.90	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.77	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.95	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.0	ug/kg	
108-88-3	Toluene	ND	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	117%	80-120%
2037-26-5	Toluene-D8	108%	102%	81-117%
460-00-4	4-Bromofluorobenzene	145%	151%	74-121%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14124.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	110	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	210	ug/kg	
88-75-5	2-Nitrophenol	ND	190	ug/kg	
100-02-7	4-Nitrophenol	ND	85	ug/kg	
87-86-5	Pentachlorophenol	ND	150	ug/kg	
108-95-2	Phenol	ND	160	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	280	ug/kg	
83-32-9	Acenaphthene	ND	210	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
120-12-7	Anthracene	ND	160	ug/kg	
92-87-5	Benzidine	ND	370	ug/kg	
56-55-3	Benzo(a)anthracene	ND	220	ug/kg	
50-32-8	Benzo(a)pyrene	ND	250	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	180	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	220	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	210	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	210	ug/kg	
91-58-7	2-Chloronaphthalene	ND	230	ug/kg	
106-47-8	4-Chloroaniline	ND	200	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	160	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	160	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	220	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	140	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	160	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	110	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	130	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14124.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	220	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	160	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	150	ug/kg	
84-66-2	Diethyl phthalate	ND	240	ug/kg	
131-11-3	Dimethyl phthalate	ND	170	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	240	ug/kg	
206-44-0	Fluoranthene	36.6	180	ug/kg	J
86-73-7	Fluorene	ND	140	ug/kg	
118-74-1	Hexachlorobenzene	ND	160	ug/kg	
87-68-3	Hexachlorobutadiene	ND	140	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	85	ug/kg	
67-72-1	Hexachloroethane	ND	230	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	110	ug/kg	
91-20-3	Naphthalene	ND	170	ug/kg	
98-95-3	Nitrobenzene	ND	120	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	160	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	ug/kg	
85-01-8	Phenanthrene	23.4	140	ug/kg	J
129-00-0	Pyrene	42.9	200	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	ND	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		25-121%
4165-62-2	Phenol-d5	42%		24-113%
118-79-6	2,4,6-Tribromophenol	45%		19-122%
4165-60-0	Nitrobenzene-d5	46%		23-120%
321-60-8	2-Fluorobiphenyl	46%		30-115%
1718-51-0	Terphenyl-d14	61%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD21079.D	1	10/03/97	AH	09/25/97	OP2637	GCD957
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	308	18	ug/kg	
11104-28-2	Aroclor 1221	ND	11	ug/kg	
11141-16-5	Aroclor 1232	ND	16	ug/kg	
53469-21-9	Aroclor 1242	ND	3.7	ug/kg	
12672-29-6	Aroclor 1248	ND	2.9	ug/kg	
11097-69-1	Aroclor 1254	ND	3.7	ug/kg	
11096-82-5	Aroclor 1260	ND	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	103%		30-150%
877-09-8	Tetrachloro-m-xylene	102%		30-150%
2051-24-3	Decachlorobiphenyl	91%		30-150%
2051-24-3	Decachlorobiphenyl	91%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID: S-13, NE CORNER
Lab Sample ID: E25828-13
Matrix: SO - Soil
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 89.3
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	1.2	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	33.8	22	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.56	0.56	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	6.0	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	41.0	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.11	0.11	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<11	11	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.1	1.1	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

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Report of Analysis

Client Sample ID: S-14
Lab Sample ID: E25828-14
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 82.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7096.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.0	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.77	ug/kg	
74-97-5	Bromochloromethane	ND	0.77	ug/kg	
75-27-4	Bromodichloromethane	ND	0.92	ug/kg	
75-25-2	Bromoform	ND	0.65	ug/kg	
104-51-8	n-Butylbenzene	ND	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.3	ug/kg	
75-00-3	Chloroethane	ND	1.3	ug/kg	
67-66-3	Chloroform	ND	0.88	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.88	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.79	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.98	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.9	ug/kg	
124-48-1	Dibromochloromethane	ND	0.90	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.1	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.96	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.98	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.4	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID:	S-14		
Lab Sample ID:	E25828-14	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	82.8
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7096.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.4	ug/kg	
74-83-9	Methyl bromide	ND	1.4	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.54	ug/kg	
75-09-2	Methylene chloride	ND	0.52	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.0	ug/kg	
91-20-3	Naphthalene	ND	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.86	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.97	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.83	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.91	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.3	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		80-120%
2037-26-5	Toluene-D8	87%		81-117%
460-00-4	4-Bromofluorobenzene	94%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-14
Lab Sample ID: E25828-14
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 82.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9128.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	230	ug/kg	
88-75-5	2-Nitrophenol	ND	210	ug/kg	
100-02-7	4-Nitrophenol	ND	92	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	300	ug/kg	
83-32-9	Acenaphthene	ND	230	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	ug/kg	
50-32-8	Benzo(a)pyrene	ND	270	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	230	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	230	ug/kg	
91-58-7	2-Chloronaphthalene	ND	250	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	340	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	ug/kg	

ND = Not detected
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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID:	S-14		
Lab Sample ID:	E25828-14	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	82.8
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9128.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	160	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	180	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	31.2	200	ug/kg	J
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	92	ug/kg	
67-72-1	Hexachloroethane	ND	250	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	210	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		25-121%
4165-62-2	Phenol-d5	83%		24-113%
118-79-6	2,4,6-Tribromophenol	83%		19-122%
4165-60-0	Nitrobenzene-d5	68%		23-120%
321-60-8	2-Fluorobiphenyl	72%		30-115%
1718-51-0	Terphenyl-d14	94%		18-137%

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID: S-14
Lab Sample ID: E25828-14
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 82.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15904.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	19	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	17	ug/kg	
53469-21-9	Aroclor 1242	ND	4.0	ug/kg	
12672-29-6	Aroclor 1248	ND	3.1	ug/kg	
11097-69-1	Aroclor 1254	ND	4.0	ug/kg	
11096-82-5	Aroclor 1260	ND	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	56%		30-150%
877-09-8	Tetrachloro-m-xylene	62%		30-150%
2051-24-3	Decachlorobiphenyl	82%		30-150%
2051-24-3	Decachlorobiphenyl	62%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-14		
Lab Sample ID:	E25828-14	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	82.8
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Arsenic	2.5	1.2	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Barium	30.6	24	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Cadmium	<0.60	0.60	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Chromium	4.1	1.2	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Lead	<12	12	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Mercury	<0.12	0.12	mg/kg	1	09/22/97	09/22/97 PGC	SW846 7471A
Selenium	<12	12	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A
Silver	<1.2	1.2	mg/kg	1	09/22/97	09/21/97 MMC	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: S-15
Lab Sample ID: E25828-15
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 84.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	K7258.D	2	09/30/97	YD	n/a	n/a	VK557
Run #2 [b]	K7237.D	2	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	2.4	ug/kg	
108-86-1	Bromobenzene	ND	1.5	ug/kg	
74-97-5	Bromochloromethane	ND	1.5	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	ug/kg	
75-25-2	Bromoform	ND	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.8	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.4	ug/kg	
108-90-7	Chlorobenzene	ND	2.6	ug/kg	
75-00-3	Chloroethane	ND	2.6	ug/kg	
67-66-3	Chloroform	ND	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.5	ug/kg	
106-43-4	p-Chlorotoluene	ND	4.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.9	ug/kg	
594-20-7	2,2-Dichloropropane	ND	3.8	ug/kg	
124-48-1	Dibromochloromethane	ND	1.7	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.2	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.9	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.9	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	ug/kg	
100-41-4	Ethylbenzene	ND	2.6	ug/kg	
87-68-3	Hexachlorobutadiene	ND	3.1	ug/kg	
98-82-8	Isopropylbenzene	ND	2.8	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID:	S-15		
Lab Sample ID:	E25828-15	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	84.7
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	K7258.D	2	09/30/97	YD	n/a	n/a	VK557
Run #2 [b]	K7237.D	2	09/29/97	YD	n/a	n/a	VK556

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	2.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	12	ug/kg	
74-83-9	Methyl bromide	ND	2.8	ug/kg	
74-87-3	Methyl chloride	ND	3.1	ug/kg	
74-95-3	Methylene bromide	ND	1.1	ug/kg	
75-09-2	Methylene chloride	13.9	1.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	12	ug/kg	
91-20-3	Naphthalene	ND	5.0	ug/kg	
103-65-1	n-Propylbenzene	ND	2.4	ug/kg	
100-42-5	Styrene	ND	2.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	1.6	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.6	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	2.1	ug/kg	
79-01-6	Trichloroethylene	ND	3.3	ug/kg	
75-69-4	Trichlorofluoromethane	4.1	2.6	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	118%	80-120%
2037-26-5	Toluene-D8	104%	98%	81-117%
460-00-4	4-Bromofluorobenzene	182%	142%	74-121%

(a) Dilution required due to matrix interference.
(b) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-5
Lab Sample ID: E25828-15
Matrix: SO - Soil
Method: SW846 8270
Project: [illegible]

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 84.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14217.D	1	10/03/97	JYZ	09/25/97	OP2636	EH492
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	210	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	110	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	220	ug/kg	
88-75-5	2-Nitrophenol	ND	200	ug/kg	
100-02-7	4-Nitrophenol	ND	91	ug/kg	
87-86-5	Pentachlorophenol	ND	160	ug/kg	
108-95-2	Phenol	ND	160	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	300	ug/kg	
83-32-9	Acenaphthene	ND	220	ug/kg	
208-96-8	Acenaphthylene	ND	130	ug/kg	
120-12-7	Anthracene	ND	160	ug/kg	
92-87-5	Benzidine	ND	390	ug/kg	
56-55-3	Benzo(a)anthracene	41.0	230	ug/kg	J
50-32-8	Benzo(a)pyrene	35.5	260	ug/kg	J
205-99-2	Benzo(b)fluoranthene	37.2	190	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	36.8	130	ug/kg	J
207-08-9	Benzo(k)fluoranthene	34.7	230	ug/kg	J
101-55-3	4-Bromophenyl phenyl ether	ND	220	ug/kg	
85-68-7	Butyl benzyl phthalate	32.8	220	ug/kg	J
91-58-7	2-Chloronaphthalene	ND	240	ug/kg	
106-47-8	4-Chloroaniline	ND	210	ug/kg	
218-01-9	Chrysene	46.4	130	ug/kg	J
111-91-1	bis(2-Chloroethoxy)methane	ND	170	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	330	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	160	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	110	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-15
Lab Sample ID: E25828-15
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 84.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14217.D	1	10/03/97	JYZ	09/25/97	OP2636	EH492
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	240	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	170	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	160	ug/kg	
84-66-2	Diethyl phthalate	ND	250	ug/kg	
131-11-3	Dimethyl phthalate	ND	180	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	65.1	200	ug/kg	J
86-73-7	Fluorene	ND	150	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	150	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	91	ug/kg	
67-72-1	Hexachloroethane	ND	240	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	24.0	110	ug/kg	J
78-59-1	Isophorone	ND	110	ug/kg	
91-20-3	Naphthalene	ND	180	ug/kg	
98-95-3	Nitrobenzene	ND	130	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	170	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	190	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	ug/kg	
85-01-8	Phenanthrene	20.8	150	ug/kg	J
129-00-0	Pyrene	63.9	210	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	82%		25-121%
4165-62-2	Phenol-d5	84%		24-113%
118-79-6	2,4,6-Tribromophenol	95%		19-122%
4165-60-0	Nitrobenzene-d5	94%		23-120%
321-60-8	2-Fluorobiphenyl	87%		30-115%
1718-51-0	Terphenyl-d14	120%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	S-15		
Lab Sample ID:	E25828-15	**Date Sampled:**	09/17/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8080	**Percent Solids:**	84.7
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03970.D	1	10/01/97	JMC	09/25/97	OP2637	GAB853
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	18	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	16	ug/kg	
53469-21-9	Aroclor 1242	ND	3.9	ug/kg	
12672-29-6	Aroclor 1248	ND	3.0	ug/kg	
11097-69-1	Aroclor 1254	ND	3.9	ug/kg	
11096-82-5	Aroclor 1260	ND	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		30-150%
877-09-8	Tetrachloro-m-xylene	118%		30-150%
2051-24-3	Decachlorobiphenyl	107%		30-150%
2051-24-3	Decachlorobiphenyl	118%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-15
Lab Sample ID: E25828-15
Matrix: SO - Soil

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: 84.7

Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	4.8	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	88.4	24	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	<0.59	0.59	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	17.4	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	170	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	<0.12	0.12	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	<12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	<1.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID:	GW-1		
Lab Sample ID:	E25828-16	**Date Sampled:**	09/17/97
Matrix:	AQ - Ground Water	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	n/a
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I3067.D	1	09/29/97	SRP	n/a	n/a	VI577
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.80	ug/l	
108-86-1	Bromobenzene	ND	0.88	ug/l	
74-97-5	Bromochloromethane	ND	0.77	ug/l	
75-27-4	Bromodichloromethane	ND	0.83	ug/l	
75-25-2	Bromoform	ND	0.85	ug/l	
104-51-8	n-Butylbenzene	ND	0.96	ug/l	
135-98-8	sec-Butylbenzene	ND	0.86	ug/l	
98-06-6	tert-Butylbenzene	ND	0.64	ug/l	
108-90-7	Chlorobenzene	ND	0.93	ug/l	
75-00-3	Chloroethane	ND	1.2	ug/l	
67-66-3	Chloroform	ND	0.88	ug/l	
95-49-8	o-Chlorotoluene	ND	0.96	ug/l	
106-43-4	p-Chlorotoluene	ND	0.88	ug/l	
56-23-5	Carbon tetrachloride	ND	0.57	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.67	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.79	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.1	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.2	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.73	ug/l	
124-48-1	Dibromochloromethane	ND	0.69	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.4	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	0.80	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.87	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.87	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.65	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ug/l	
100-41-4	Ethylbenzene	ND	0.47	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	0.60	ug/l	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: GW-1
Lab Sample ID: E25828-16
Matrix: AQ - Ground Water
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I3067.D	1	09/29/97	SRP	n/a	n/a	VI577
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	0.91	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.9	ug/l	
74-95-3	Methylene bromide	ND	0.90	ug/l	
75-09-2	Methylene chloride	ND	0.63	ug/l	
78-93-3	Methyl ethyl ketone	ND	0.73	ug/l	
91-20-3	Naphthalene	ND	0.70	ug/l	
103-65-1	n-Propylbenzene	ND	0.85	ug/l	
100-42-5	Styrene	ND	0.78	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.92	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.95	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.4	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.65	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ug/l	
127-18-4	Tetrachloroethylene	ND	0.87	ug/l	
108-88-3	Toluene	ND	0.85	ug/l	
79-01-6	Trichloroethylene	ND	0.71	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.88	ug/l	
75-01-4	Vinyl chloride	ND	1.6	ug/l	
1330-20-7	Xylene (total)	ND	1.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		86-118%
2037-26-5	Toluene-D8	99%		88-110%
460-00-4	4-Bromofluorobenzene	92%		86-115%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-1
Lab Sample ID: E25828-16
Matrix: AQ - Ground Water
Method: SW846 8270
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14060.D	1	09/26/97	JYZ	09/25/97	OP2610	EH487
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	0.98	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	0.74	ug/l	
120-83-2	2,4-Dichlorophenol	ND	0.95	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	1.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	0.67	ug/l	
88-75-5	2-Nitrophenol	ND	0.81	ug/l	
100-02-7	4-Nitrophenol	ND	0.99	ug/l	
87-86-5	Pentachlorophenol	ND	0.69	ug/l	
108-95-2	Phenol	ND	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.62	ug/l	
83-32-9	Acenaphthene	ND	1.2	ug/l	
208-96-8	Acenaphthylene	ND	1.2	ug/l	
120-12-7	Anthracene	ND	1.2	ug/l	
92-87-5	Benzidine	ND	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.4	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.4	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.4	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	1.2	ug/l	
85-68-7	Butyl benzyl phthalate	ND	1.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	1.3	ug/l	
106-47-8	4-Chloroaniline	ND	1.3	ug/l	
218-01-9	Chrysene	ND	1.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	1.4	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.3	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1.3	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	1.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.4	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	1.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.2	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.4	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.3	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.7	ug/l	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	GW-1		
Lab Sample ID:	E25828-16	**Date Sampled:**	09/17/97
Matrix:	AQ - Ground Water	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	n/a
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14060.D	1	09/26/97	JYZ	09/25/97	OP2610	EH487
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	1.6	ug/l	
84-74-2	Di-n-butyl phthalate	ND	1.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	1.6	ug/l	
84-66-2	Diethyl phthalate	ND	1.5	ug/l	
131-11-3	Dimethyl phthalate	ND	1.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1.5	ug/l	
206-44-0	Fluoranthene	ND	1.2	ug/l	
86-73-7	Fluorene	ND	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	1.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.2	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.74	ug/l	
67-72-1	Hexachloroethane	ND	1.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.4	ug/l	
78-59-1	Isophorone	ND	1.2	ug/l	
91-20-3	Naphthalene	ND	1.3	ug/l	
98-95-3	Nitrobenzene	ND	1.2	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	1.7	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	1.3	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.5	ug/l	
85-01-8	Phenanthrene	ND	1.3	ug/l	
129-00-0	Pyrene	ND	1.4	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		21-100%
4165-62-2	Phenol-d5	23%		10-94%
118-79-6	2,4,6-Tribromophenol	72%		10-123%
4165-60-0	Nitrobenzene-d5	59%		35-114%
321-60-8	2-Fluorobiphenyl	60%		43-116%
1718-51-0	Terphenyl-d14	84%		33-141%

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-1
Lab Sample ID: E25828-16
Matrix: AQ - Ground Water
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03891.D	1	09/27/97	JMC	09/25/97	OP2635	GAB848
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.059	ug/l	
11104-28-2	Aroclor 1221	ND	0.043	ug/l	
11141-16-5	Aroclor 1232	ND	0.085	ug/l	
53469-21-9	Aroclor 1242	ND	0.058	ug/l	
12672-29-6	Aroclor 1248	ND	0.043	ug/l	
11097-69-1	Aroclor 1254	ND	0.037	ug/l	
11096-82-5	Aroclor 1260	ND	0.070	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	100%		30-150%
877-09-8	Tetrachloro-m-xylene	104%		30-150%
2051-24-3	Decachlorobiphenyl	110%		30-150%
2051-24-3	Decachlorobiphenyl	108%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: GW-1
Lab Sample ID: E25828-16
Matrix: AQ - Ground Water
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	25.0	5.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Barium	379	200	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Cadmium	<4.0	4.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Chromium	26.6	10	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Lead	124	3.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Mercury	<0.20	0.20	ug/l	1	09/29/97	09/29/97	PGC	EPA 245.1
Selenium	<5.0	5.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Silver	<10	10	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID:	GW-2		
Lab Sample ID:	E25828-17	**Date Sampled:**	09/17/97
Matrix:	AQ - Ground Water	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	n/a
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I3068.D	1	09/29/97	SRP	n/a	n/a	VI577
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.80	ug/l	
108-86-1	Bromobenzene	ND	0.88	ug/l	
74-97-5	Bromochloromethane	ND	0.77	ug/l	
75-27-4	Bromodichloromethane	ND	0.83	ug/l	
75-25-2	Bromoform	ND	0.85	ug/l	
104-51-8	n-Butylbenzene	ND	0.96	ug/l	
135-98-8	sec-Butylbenzene	ND	0.86	ug/l	
98-06-6	tert-Butylbenzene	ND	0.64	ug/l	
108-90-7	Chlorobenzene	ND	0.93	ug/l	
75-00-3	Chloroethane	ND	1.2	ug/l	
67-66-3	Chloroform	ND	0.88	ug/l	
95-49-8	o-Chlorotoluene	ND	0.96	ug/l	
106-43-4	p-Chlorotoluene	ND	0.88	ug/l	
56-23-5	Carbon tetrachloride	ND	0.57	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.67	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.79	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.1	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.2	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.73	ug/l	
124-48-1	Dibromochloromethane	ND	0.69	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.4	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	0.80	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.87	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.87	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.65	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ug/l	
100-41-4	Ethylbenzene	ND	0.47	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	0.60	ug/l	

ND = Not detected

RDL = Reported Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates that analyte is found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-2
Lab Sample ID: E25828-17
Matrix: AQ - Ground Water
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	13068.D	1	09/29/97	SRP	n/a	n/a	VI577
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	0.91	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.9	ug/l	
74-95-3	Methylene bromide	ND	0.90	ug/l	
75-09-2	Methylene chloride	ND	0.63	ug/l	
78-93-3	Methyl ethyl ketone	ND	0.73	ug/l	
91-20-3	Naphthalene	ND	0.70	ug/l	
103-65-1	n-Propylbenzene	ND	0.85	ug/l	
100-42-5	Styrene	ND	0.78	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.92	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.95	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.4	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.65	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ug/l	
127-18-4	Tetrachloroethylene	ND	0.87	ug/l	
108-88-3	Toluene	ND	0.85	ug/l	
79-01-6	Trichloroethylene	ND	0.71	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.88	ug/l	
75-01-4	Vinyl chloride	ND	1.6	ug/l	
1330-20-7	Xylene (total)	ND	1.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		86-118%
2037-26-5	Toluene-D8	97%		88-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

ND = Not detected
RDL = Reported Detection Limit
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J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: GW-2
Lab Sample ID: E25828-17
Matrix: AQ - Ground Water
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14061.D	1	09/26/97	JYZ	09/25/97	OP2610	EH487
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	0.98	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	0.74	ug/l	
120-83-2	2,4-Dichlorophenol	ND	0.95	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	1.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	0.67	ug/l	
88-75-5	2-Nitrophenol	ND	0.81	ug/l	
100-02-7	4-Nitrophenol	ND	0.99	ug/l	
87-86-5	Pentachlorophenol	ND	0.69	ug/l	
108-95-2	Phenol	ND	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.62	ug/l	
83-32-9	Acenaphthene	ND	1.2	ug/l	
208-96-8	Acenaphthylene	ND	1.2	ug/l	
120-12-7	Anthracene	ND	1.2	ug/l	
92-87-5	Benzidine	ND	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.4	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.4	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.4	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	1.2	ug/l	
85-68-7	Butyl benzyl phthalate	ND	1.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	1.3	ug/l	
106-47-8	4-Chloroaniline	ND	1.3	ug/l	
218-01-9	Chrysene	ND	1.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	1.4	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.3	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1.3	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	1.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.4	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	1.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.2	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.4	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.3	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.7	ug/l	

ND = Not detected
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-2
Lab Sample ID: E25828-17
Matrix: AQ - Ground Water
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14061.D	1	09/26/97	JYZ	09/25/97	OP2610	EH487
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	1.6	ug/l	
84-74-2	Di-n-butyl phthalate	ND	1.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	1.6	ug/l	
84-66-2	Diethyl phthalate	ND	1.5	ug/l	
131-11-3	Dimethyl phthalate	ND	1.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1.5	ug/l	
206-44-0	Fluoranthene	ND	1.2	ug/l	
86-73-7	Fluorene	ND	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	1.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.2	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.74	ug/l	
67-72-1	Hexachloroethane	ND	1.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.4	ug/l	
78-59-1	Isophorone	ND	1.2	ug/l	
91-20-3	Naphthalene	ND	1.3	ug/l	
98-95-3	Nitrobenzene	ND	1.2	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	1.7	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	1.3	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.5	ug/l	
85-01-8	Phenanthrene	ND	1.3	ug/l	
129-00-0	Pyrene	ND	1.4	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		21-100%
4165-62-2	Phenol-d5	26%		10-94%
118-79-6	2,4,6-Tribromophenol	94%		10-123%
4165-60-0	Nitrobenzene-d5	75%		35-114%
321-60-8	2-Fluorobiphenyl	76%		43-116%
1718-51-0	Terphenyl-d14	120%		33-141%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-2
Lab Sample ID: E25828-17
Matrix: AQ - Ground Water
Date Sampled: 09/17/97
Date Received: 09/19/97
Percent Solids: n/a
Project: Falls Poultry, Livingston Manor

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	6.5	5.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Barium	<200	200	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Cadmium	<4.0	4.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Chromium	<10	10	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Lead	28.9	3.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Mercury	<0.20	0.20	ug/l	1	09/29/97	09/29/97	PGC	EPA 245.1
Selenium	<5.0	5.0	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7
Silver	<10	10	ug/l	1	09/26/97	09/29/97	NS	EPA 200.7

RDL = Reported Detection Limit

[illegible] PAY TIA [illegible] C OF FOLL [illegible] NT [illegible] A [illegible] ULT OF [illegible] RU [illegible] AR [illegible] R [illegible] EW [illegible]

SO

per M. Johnson 9/19/97

2 coolers

p. 1 of 2

8260 (VOC) / 8270 (AE/BN) = Full List (NOT STARS

TURNAROUND TIME
☒ Normal All others (14 DAY)
☒ Rush S-2
☒ Date Needed 9/23/97
per H. ERNST / NBV

eder associates
LOCUST VALLEY, NEW YORK; TRENTON, NEW JERSEY;
ANN ARBOR, MICHIGAN; MADISON, WISCONSIN;
AUGUSTA, GEORGIA; JACKSONVILLE, FLORIDA; TAMPA, FLORIDA

CHAIN OF CUSTODY RECORD

LABORATORY NAME: Accutest

PROJECT NO. 1482-26

PROJECT NAME: Aimon-Swift, Falls Poultry

Project Contact: Herb Ernst / Marc Johnson

RESULTS TO: Marc Johnson, Eder, MA

INVOICE TO: Eder

SAMPLE I.D. NO		DATE	TIME	No. Containers Comp	No. Containers Grab	SAMPLE LOCATION	SVOCs 8270, AE/BN, PCBs, Metals*	VOCs 8260 ~~STARS~~ NBV			REMARKS SAMPLE DESCRIPTIONS & OTHER ANALYSES
S-1	EV58828-1	9/15/97	1130		X	S-1, 3-4'	1	1			Soils 10, 14(1) / 14 DAY - (HOL
S-2	-2	9/15/97	1425		X	S-2	1	1			72 HR -
S-3	-3	9/16/97	0950		X	S-3	1	1			14 DAY (HOL
S-4	-4	9/16/97	1030		X	S-4	1	1			
S-5	-5	9/16/97	1045	X		S-5, Stockpile	1	1			
S-6	-6	9/16/97	1220		X	S-6	1	2			
S-7	-7	9/16/97	1250	X		S-7, Stockpile	1	2			
S-8	-8	9/16/97	1400	X		S-8, Stockpile	1	2			
S-9	-9	9/16/97	1410	X		S-9, Stockpile	1	2			
S-10	-10	9/16/97	1420	X		S-10, Stockpile	1	2			
S-11	-11	9/16/97	1550		X	S-11, 3-4'	1	2			

Received from Laboratory by: (Signature)
Printed Name
Date/Time
Agent of:
Rec'd. Via: (By Carrier)
Laboratory Reference No.

72 hr TAT Due 9/23/97

* Metals = ~~AS, Cd, Cr, Pb~~ H

Relinquished by (Signature)	Date/Time	Agent of:	Rec'd. by (Signature)	Date/Time	Agent of:
Printed Name			Printed Name		
Relinquished by (Signature)	Date/Time	Agent of:	Rec'd. by (Signature)	Date/Time	Agent of:
Printed Name			Printed Name		
Relinquished by (Signature)	Date/Time 9/17/97 1600	Received for Laboratory by: (Signature)	Date/Time 9-1[illegible] 0945	Instructions:	
Printed Name Herbert Ernst		Printed Name R. VANBLARCOM	rec'd in field		

Sampler (Signature)

Samplers Name (Printed) Herbert Ernst

Shipped Via: Federal Express

Sample Condition

Temp. of blank(°C)

Ship. Cont. OK ? Y N N/A
Rec'd Refrig. ? Y N N/A
Seals OK ? Y N N/A
Samples Leaking ? Y N N/A

[redacted] + Day T/A Samples on [redacted] ...D [redacted] ...TIE [redacted] RE...TS [redacted] ...E A...t [redacted] ...E [redacted] ...LE... [redacted]

(✱) per. M Johnson 9/19/97 2 coolers

eder associates
LOCUST VALLEY, NEW YORK; TRENTON, NEW JERSEY;
ANN ARBOR, MICHIGAN; MADISON, WISCONSIN;
AUGUSTA, GEORGIA; JACKSONVILLE, FLORIDA; TAMPA, FLORIDA

p. 2 of 2
8260 / 8270 = Full List
(VOC) (AE/BN) (Not STARS List)

TURNAROUND TIME
14 DAY ~~☒~~ Normal S-13, S-15, GW1 + 2
SO ☒ Rush S-12 & S-14
GW ☒ Date Needed 9/23/97 per H. Ernst. NBV

CHAIN OF CUSTODY RECORD

LABORATORY NAME: Accutest

PROJECT NO.: 1482-26

PROJECT NAME: Armour-Swift, Falls Poultry

Project Contact: H. Ernst / Marc Johnson

RESULTS TO: Marc Johnson, Eder, MA

INVOICE TO: Eder Associates

SAMPLE I.D. NO	DATE	TIME	No. Containers Comp	Grab	SAMPLE LOCATION	ANALYSIS: SVOCs 8270, AE/BN PCBs, Metals ✱	VOCs 8260 ~~STARS~~ NBV			REMARKS: SAMPLE DESCRIPTIONS & OTHER ANALYSES
S-12 (VS848-12)	9/17/97	0830		X	S-12	1	2			Soil 20,14G 72 HR T/A
S-13 -13	9/17/97	0945		X	S-13, NE corner	1	2			Soil 14 DAY (H
S-14 -14	9/17/97	1005		X	S-14	1	2			Soil contains oil 72 HR T/A
S-15 -15	9/17/97	1150		X	S-15	1	2			Soil 14 DAY (HO
GW-1 -16	9/17/97	1300		X	GW-1	3	3			Water 8197G,24
GW-2 -17	9/17/97	1340		X	GW-2	3	3			Water
										72 HR T/A DUE ON 9/23/97
										✱ metals = ~~As, Cd, Cr, Pb~~ HM E

Received from Laboratory by: (Signature)
Printed Name
Date/Time
Agent of:
Rec'd. Via: (By Carrier)
Laboratory Reference No.

Relinquished by (Signature)
Printed Name
Date/Time
Agent of:
Rec'd. by (Signature)
Printed Name
Date/Time
Agent of:

Relinquished by (Signature)
Printed Name
Date/Time
Agent of:
Rec'd. by (Signature)
Printed Name
Date/Time
Agent of:

Relinquished by (Signature) Herbert Ernst
Printed Name Herbert Ernst
Date/Time 9/18/97 1600
Received for Laboratory by (Signature)
Printed Name R. VanBlarcom
Date/Time 9-19-97 0545
Instructions:

Sampler (Signature) Herbert Ernst
Samplers Name (Printed) Herbert Ernst
Sample Condition
Shipped Via: Federal Express
Temp. of blank (°C)
SAMPLES RECEIVED ON ICE AT ...

Ship. Cont. OK ? Y N N/A
Rec'd Refrig. ? Y N N/A
Seals OK ? Y N N/A
Samples Leaking ? Y N N/A

Accutest
Job Change Order

Request Date/Time: 9/24/97 0:00
Client: Eder-MA
Phone #:

Accutest Job No. E25828
Client Project: Falls Poultry
CSR: MSV

Sample #:	E25828-1, 3 thru 11 13 & 15 s-1, s-3 thru s-11, s-13 s-15	**Change:**	Off hold. Run for analyses as requested. 10 day t/a.

Sample #:	E25828-16 & 17 GW-1 & GW-2	**Change:**	Off hold. Run for analyses as requested. 72 hour t/a. (GW-2 does not need PCB)

Sample #:		**Change:**	

Sample #:		**Change:**	

Sample #:		**Change:**	

Sample #:		**Change:**	

Above Changes Per: Mark Johnson **Date:** 9/24/97

Client Approval (Signature): ________________

To Client: In order to process the changes outlined above, PLEASE ACCEPT THE CHANGE ORDER WITH SIGNATURE AND FAX BACK TO ACCUTEST.
FAX #: (908) 329-3499.

ACCUTEST

10/07/97

Technical Report for

Eder Associates

Falls Poultry, Livingston Manor

1482-26

Accutest Job Number: E25829

Report to:

Eder Associates
91 Montvale Avenue
Stoneham, MA 02180

ATTN: Mark Johnson

Total number of pages in report: 29

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, KS, MA, MD, NC, PA, RI, SC, VA

Results relate only to the items tested.

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Sample Summary

Eder Associates

Date: 10/06/97
Job No: E25829

Falls Poultry, Livingston Manor
Project No: 1482-26

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
E25829-1	09/18/97	09:50 HE	09/19/97	SO	Soil	S-16, 9'
E25829-2	09/18/97	10:25 HE	09/19/97	SO	Soil	S-17, 4'
E25829-3	09/18/97	10:35 HE	09/19/97	SO	Soil	S-18
E25829-4	09/18/97	11:15 HE	09/19/97	SO	Soil	S-19, 8'
E25829-5	09/12/97	15:00 HE	09/19/97	AQ	Trip Blank Soil	TRIP BLANK

ACCUTEST

Report of Analysis

Client Sample ID: S-16, 9'
Lab Sample ID: E25829-1
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7097.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.3	ug/kg	
71-43-2	Benzene	ND	1.1	ug/kg	
108-86-1	Bromobenzene	ND	0.68	ug/kg	
74-97-5	Bromochloromethane	ND	0.68	ug/kg	
75-27-4	Bromodichloromethane	ND	0.80	ug/kg	
75-25-2	Bromoform	ND	0.57	ug/kg	
104-51-8	n-Butylbenzene	ND	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	1.2	ug/kg	
75-00-3	Chloroethane	ND	1.2	ug/kg	
67-66-3	Chloroform	ND	0.77	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.6	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.77	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.69	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.86	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.7	ug/kg	
124-48-1	Dibromochloromethane	ND	0.78	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	0.98	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.89	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.84	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.86	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	1.3	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-16, 9'
Lab Sample ID: E25829-1
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7097.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.3	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	5.6	ug/kg	
74-83-9	Methyl bromide	ND	1.3	ug/kg	
74-87-3	Methyl chloride	ND	1.4	ug/kg	
74-95-3	Methylene bromide	ND	0.48	ug/kg	
75-09-2	Methylene chloride	ND	0.46	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.3	ug/kg	
91-20-3	Naphthalene	ND	2.2	ug/kg	
103-65-1	n-Propylbenzene	ND	1.1	ug/kg	
100-42-5	Styrene	ND	0.90	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.96	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.85	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.73	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.87	0.80	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.90	ug/kg	
127-18-4	Tetrachloroethylene	ND	0.95	ug/kg	
108-88-3	Toluene	ND	0.94	ug/kg	
79-01-6	Trichloroethylene	ND	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	2.1	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	1.0	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		80-120%
2037-26-5	Toluene-D8	86%		81-117%
460-00-4	4-Bromofluorobenzene	100%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST®

Report of Analysis

Client Sample ID: S-16, 9'
Lab Sample ID: E25829-1
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor
Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9129.D	1	09/22/97	WHS	09/19/97	OP2609	EB313
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	190	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	100	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	130	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	120	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	200	ug/kg	
88-75-5	2-Nitrophenol	ND	180	ug/kg	
100-02-7	4-Nitrophenol	ND	81	ug/kg	
87-86-5	Pentachlorophenol	ND	140	ug/kg	
108-95-2	Phenol	ND	150	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	270	ug/kg	
83-32-9	Acenaphthene	ND	200	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
120-12-7	Anthracene	ND	150	ug/kg	
92-87-5	Benzidine	ND	350	ug/kg	
56-55-3	Benzo(a)anthracene	ND	210	ug/kg	
50-32-8	Benzo(a)pyrene	ND	240	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	210	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	200	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	200	ug/kg	
91-58-7	2-Chloronaphthalene	ND	220	ug/kg	
106-47-8	4-Chloroaniline	ND	190	ug/kg	
218-01-9	Chrysene	ND	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	160	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	180	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	150	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	210	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	140	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	150	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	100	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	180	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	130	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	210	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	160	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	140	ug/kg	
84-66-2	Diethyl phthalate	ND	220	ug/kg	
131-11-3	Dimethyl phthalate	ND	160	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	1070	230	ug/kg	
206-44-0	Fluoranthene	ND	180	ug/kg	
86-73-7	Fluorene	ND	140	ug/kg	
118-74-1	Hexachlorobenzene	ND	160	ug/kg	
87-68-3	Hexachlorobutadiene	ND	140	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	81	ug/kg	
67-72-1	Hexachloroethane	ND	220	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	100	ug/kg	
78-59-1	Isophorone	ND	100	ug/kg	
91-20-3	Naphthalene	ND	160	ug/kg	
98-95-3	Nitrobenzene	ND	120	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	160	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	160	ug/kg	
85-01-8	Phenanthrene	ND	140	ug/kg	
129-00-0	Pyrene	ND	190	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	58%		25-121%
4165-62-2	Phenol-d5	76%		24-113%
118-79-6	2,4,6-Tribromophenol	92%		19-122%
4165-60-0	Nitrobenzene-d5	58%		23-120%
321-60-8	2-Fluorobiphenyl	67%		30-115%
1718-51-0	Terphenyl-d14	94%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-16, 9'
Lab Sample ID: E25829-1
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15905.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	16	ug/kg	
11104-28-2	Aroclor 1221	ND	10	ug/kg	
11141-16-5	Aroclor 1232	ND	15	ug/kg	
53469-21-9	Aroclor 1242	ND	3.5	ug/kg	
12672-29-6	Aroclor 1248	ND	2.7	ug/kg	
11097-69-1	Aroclor 1254	ND	3.5	ug/kg	
11096-82-5	Aroclor 1260	ND	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	55%		30-150%
877-09-8	Tetrachloro-m-xylene	61%		30-150%
2051-24-3	Decachlorobiphenyl	84%		30-150%
2051-24-3	Decachlorobiphenyl	85%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-16, 9'
Lab Sample ID: E25829-1
Matrix: SO - Soil
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.2

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	< 1.1	1.1	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Barium	31.1	21	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Cadmium	< 0.53	0.53	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Chromium	5.6	1.1	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Lead	11.2	11	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Mercury	< 0.10	0.10	mg/kg	1	09/22/97	09/22/97	PGC	SW846 7471A
Selenium	< 11	11	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Silver	< 1.1	1.1	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A

RDL = Reported Detection Limit

ACCUTEST

Report of Analysis

Client Sample ID: S-17, 4'
Lab Sample ID: E25829-2
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7238.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	6.3	ug/kg	
71-43-2	Benzene	ND	1.3	ug/kg	
108-86-1	Bromobenzene	ND	0.81	ug/kg	
74-97-5	Bromochloromethane	ND	0.81	ug/kg	
75-27-4	Bromodichloromethane	ND	0.96	ug/kg	
75-25-2	Bromoform	ND	0.68	ug/kg	
104-51-8	n-Butylbenzene	ND	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.3	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	1.4	ug/kg	
67-66-3	Chloroform	ND	0.92	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.92	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.82	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	0.93	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	ug/kg	
156-59-4	cis-1,2-Dichloroethylene	ND	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.6	ug/kg	
98-82-8	Isopropylbenzene	ND	1.5	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-17, 4'
Lab Sample ID: E25829-2
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7238.D	1	09/29/97	YD	n/a	n/a	VK556
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.7	ug/kg	
74-83-9	Methyl bromide	ND	1.5	ug/kg	
74-87-3	Methyl chloride	ND	1.6	ug/kg	
74-95-3	Methylene bromide	ND	0.57	ug/kg	
75-09-2	Methylene chloride	ND	0.54	ug/kg	
78-93-3	Methyl ethyl ketone	ND	6.3	ug/kg	
91-20-3	Naphthalene	ND	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	1.3	ug/kg	
100-42-5	Styrene	ND	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.89	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.87	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.1	ug/kg	
108-88-3	Toluene	ND	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.4	ug/kg	
75-01-4	Vinyl chloride	ND	1.2	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		80-120%
2037-26-5	Toluene-D8	103%		81-117%
460-00-4	4-Bromofluorobenzene	111%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-17, 4'
Lab Sample ID: E25829-2
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14118.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	220	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	120	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	240	ug/kg	
88-75-5	2-Nitrophenol	ND	220	ug/kg	
100-02-7	4-Nitrophenol	ND	96	ug/kg	
87-86-5	Pentachlorophenol	ND	170	ug/kg	
108-95-2	Phenol	ND	170	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	320	ug/kg	
83-32-9	Acenaphthene	ND	240	ug/kg	
208-96-8	Acenaphthylene	ND	140	ug/kg	
120-12-7	Anthracene	ND	170	ug/kg	
92-87-5	Benzidine	ND	420	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	ug/kg	
50-32-8	Benzo(a)pyrene	ND	280	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	140	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	240	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	220	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	350	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	120	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID: S-17, 4'
Lab Sample ID: E25829-2
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 79.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H14118.D	1	09/30/97	JYZ	09/25/97	OP2636	EH488
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	250	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	180	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	190	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	ND	210	ug/kg	
86-73-7	Fluorene	ND	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	96	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	120	ug/kg	
91-20-3	Naphthalene	ND	190	ug/kg	
98-95-3	Nitrobenzene	ND	140	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	180	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	ug/kg	
85-01-8	Phenanthrene	ND	160	ug/kg	
129-00-0	Pyrene	ND	220	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%		25-121%
4165-62-2	Phenol-d5	66%		24-113%
118-79-6	2,4,6-Tribromophenol	75%		19-122%
4165-60-0	Nitrobenzene-d5	71%		23-120%
321-60-8	2-Fluorobiphenyl	72%		30-115%
1718-51-0	Terphenyl-d14	107%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Client Sample ID:	S-17, 4'		
Lab Sample ID:	E25829-2	**Date Sampled:**	09/18/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8080	**Percent Solids:**	79.6
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB03971.D	1	10/01/97	JMC	09/25/97	OP2637	GAB853
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	18	ug/kg	
53469-21-9	Aroclor 1242	ND	4.2	ug/kg	
12672-29-6	Aroclor 1248	ND	3.2	ug/kg	
11097-69-1	Aroclor 1254	ND	4.2	ug/kg	
11096-82-5	Aroclor 1260	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		30-150%
2051-24-3	Decachlorobiphenyl	126%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Page 1 of 1

Client Sample ID:	S-17, 4'		
Lab Sample ID:	E25829-2	**Date Sampled:**	09/18/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	79.6
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	1.4	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Barium	54.1	25	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Cadmium	< 0.63	0.63	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Chromium	3.1	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Lead	< 12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Mercury	< 0.12	0.12	mg/kg	1	10/02/97	10/02/97	PGC	SW846 7471A
Selenium	< 12	12	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A
Silver	< 1.2	1.2	mg/kg	1	09/29/97	10/01/97	NS	SW846 6010A

RDL = Reported Detection Limit

ACCUTEST

Report of Analysis

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7098.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2 [a]	K7093.D	1	09/23/97	YD	n/a	n/a	VK553

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.3	ug/kg	
71-43-2	Benzene	ND	1.1	ug/kg	
108-86-1	Bromobenzene	ND	0.68	ug/kg	
74-97-5	Bromochloromethane	ND	0.68	ug/kg	
75-27-4	Bromodichloromethane	ND	0.80	ug/kg	
75-25-2	Bromoform	ND	0.57	ug/kg	
104-51-8	n-Butylbenzene	1.5	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	1.2	ug/kg	
75-00-3	Chloroethane	ND	1.2	ug/kg	
67-66-3	Chloroform	ND	0.77	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.6	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.77	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.69	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.86	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.7	ug/kg	
124-48-1	Dibromochloromethane	ND	0.78	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	0.98	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.89	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.84	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.86	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	ug/kg	
100-41-4	Ethylbenzene	1.3	1.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	1.3	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7098.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2 [a]	K7093.D	1	09/23/97	YD	n/a	n/a	VK553

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.3	ug/kg	
108-10-1	4-Methyl-2-pentanone	71.7	5.6	ug/kg	
74-83-9	Methyl bromide	ND	1.3	ug/kg	
74-87-3	Methyl chloride	ND	1.4	ug/kg	
74-95-3	Methylene bromide	ND	0.48	ug/kg	
75-09-2	Methylene chloride	ND	0.46	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.3	ug/kg	
91-20-3	Naphthalene	3.4	2.2	ug/kg	
103-65-1	n-Propylbenzene	ND	1.1	ug/kg	
100-42-5	Styrene	ND	0.90	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.96	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.85	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.73	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	5.2	0.80	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.90	ug/kg	
127-18-4	Tetrachloroethylene	ND	0.95	ug/kg	
108-88-3	Toluene	100	0.94	ug/kg	
79-01-6	Trichloroethylene	ND	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	2.1	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	1.0	ug/kg	
1330-20-7	Xylene (total)	5.8	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	90%	80-120%
2037-26-5	Toluene-D8	84%	3%	81-117%
460-00-4	4-Bromofluorobenzene	96%	5%	74-121%

(a) Confirmation run.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9152.D	10	09/23/97	WHS	09/19/97	OP2609	EB314
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	9500	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	5100	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	6500	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	8600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	6100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	10000	ug/kg	
88-75-5	2-Nitrophenol	ND	9100	ug/kg	
100-02-7	4-Nitrophenol	ND	4000	ug/kg	
87-86-5	Pentachlorophenol	ND	7000	ug/kg	
108-95-2	Phenol	ND	7400	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	13000	ug/kg	
83-32-9	Acenaphthene	ND	10000	ug/kg	
208-96-8	Acenaphthylene	ND	6000	ug/kg	
120-12-7	Anthracene	ND	7400	ug/kg	
92-87-5	Benzidine	ND	18000	ug/kg	
56-55-3	Benzo(a)anthracene	ND	10000	ug/kg	
50-32-8	Benzo(a)pyrene	ND	12000	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	8600	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6000	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	10000	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	10000	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	10000	ug/kg	
91-58-7	2-Chloronaphthalene	ND	11000	ug/kg	
106-47-8	4-Chloroaniline	ND	9500	ug/kg	
218-01-9	Chrysene	ND	5600	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	7700	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	8900	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	7500	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	10000	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	15000	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	6800	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	12000	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	7400	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	5100	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	8900	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	6300	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Method: SW846 8270
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B9152.D	10	09/23/97	WHS	09/19/97	OP2609	EB314
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	10000	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	7700	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	7200	ug/kg	
84-66-2	Diethyl phthalate	ND	11000	ug/kg	
131-11-3	Dimethyl phthalate	ND	8100	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	12000	ug/kg	
206-44-0	Fluoranthene	ND	8800	ug/kg	
86-73-7	Fluorene	ND	6800	ug/kg	
118-74-1	Hexachlorobenzene	ND	7700	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6800	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	4000	ug/kg	
67-72-1	Hexachloroethane	ND	11000	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5100	ug/kg	
78-59-1	Isophorone	ND	5100	ug/kg	
91-20-3	Naphthalene	ND	7900	ug/kg	
98-95-3	Nitrobenzene	ND	6000	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	7700	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	8600	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	8100	ug/kg	
85-01-8	Phenanthrene	ND	6800	ug/kg	
129-00-0	Pyrene	ND	9300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	8600	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		25-121%
4165-62-2	Phenol-d5	95%		24-113%
118-79-6	2,4,6-Tribromophenol	107%		19-122%
4165-60-0	Nitrobenzene-d5	76%		23-120%
321-60-8	2-Fluorobiphenyl	93%		30-115%
1718-51-0	Terphenyl-d14	118%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST

Report of Analysis

Page 1 of 1

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15906.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	16	ug/kg	
11104-28-2	Aroclor 1221	ND	10	ug/kg	
11141-16-5	Aroclor 1232	ND	15	ug/kg	
53469-21-9	Aroclor 1242	ND	3.5	ug/kg	
12672-29-6	Aroclor 1248	ND	2.7	ug/kg	
11097-69-1	Aroclor 1254	ND	3.5	ug/kg	
11096-82-5	Aroclor 1260	ND	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		30-150%
877-09-8	Tetrachloro-m-xylene	63%		30-150%
2051-24-3	Decachlorobiphenyl	184% [a]		30-150%
2051-24-3	Decachlorobiphenyl	71%		30-150%

(a) Outside control limits due to matrix interference.

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-18		
Lab Sample ID:	E25829-3	**Date Sampled:**	09/18/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
		Percent Solids:	94.7
Project:	Falls Poultry, Livingston Manor		

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	2.0	1.0	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Barium	37.9	21	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Cadmium	<0.53	0.53	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Chromium	4.5	1.0	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Lead	274	10	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Mercury	<0.10	0.10	mg/kg	1	09/22/97	09/22/97	PGC	SW846 7471A
Selenium	<10	10	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Silver	<1.0	1.0	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A

RDL = Reported Detection Limit

ACCUTEST

Report of Analysis

Client Sample ID: S-18
Lab Sample ID: E25829-3
Matrix: SO - Soil
Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 94.7

Project: Falls Poultry, Livingston Manor

General Chemistry

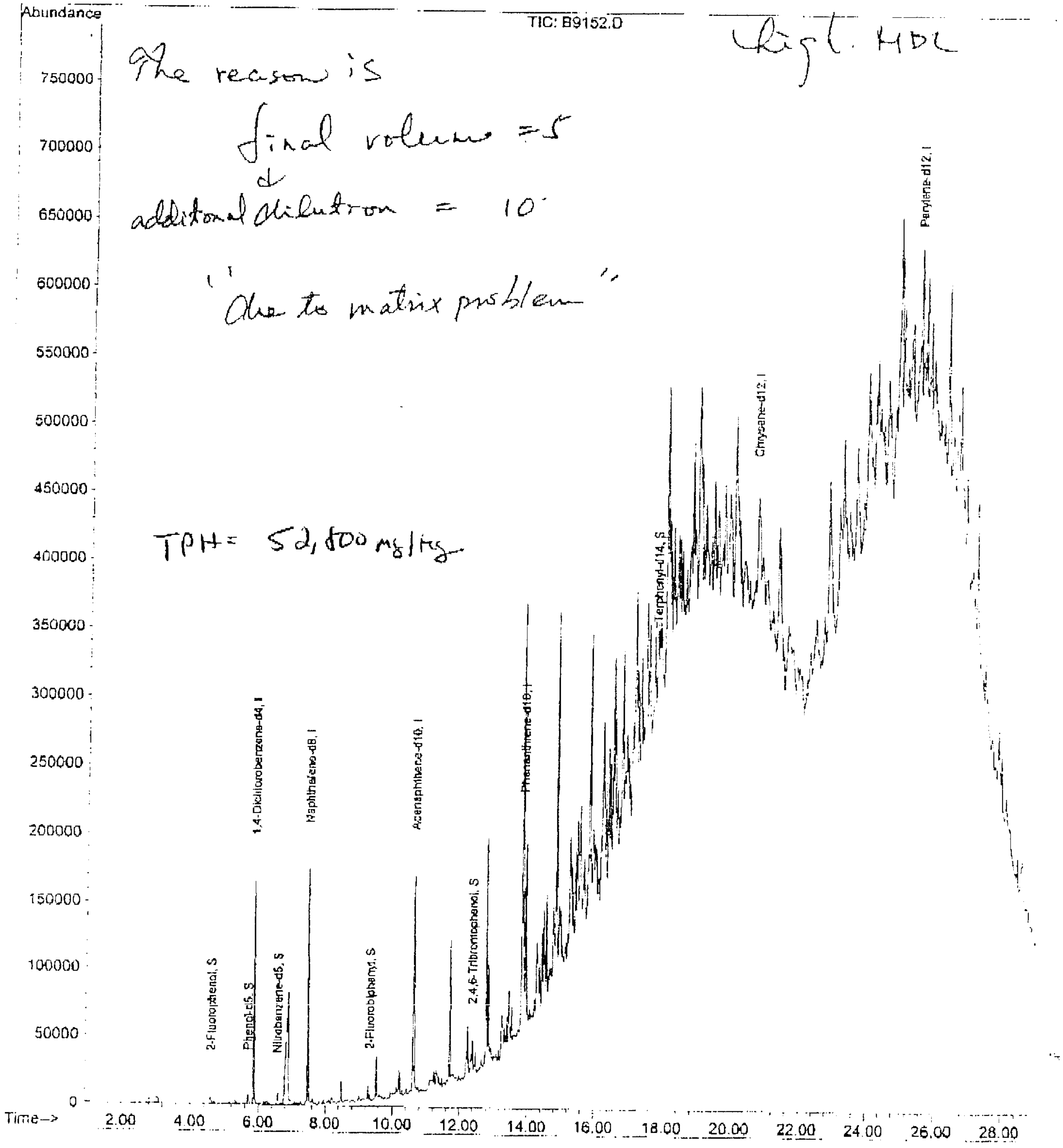
Analyte	Result	RDL	Units	DF	Analyzed	By	Method
Petroleum Hydrocarbons	52800	6600	mg/kg	250	10/14/97	MKR	EPA 418.1 M
Solids, Percent	94.7		%	1	09/21/97	KK	EPA 160.3 M

RDL = Reported Detection Limit

Data File : C:\HPCHEM\1\DATA\B9152.D
Acq On : 23 Sep 97 10:05 am
Sample : E25829-3
Misc : OP2609,EB314,S,MS2609-1,,5,10,
Quant Time: Sep 23 10:44 1997

Vial: 3
Operator: WHS
Inst : GC/MS Ins
Multiplr: 1754.10
Quant Results File: IDB311.RES

Method : C:\HPCHEM\1\METHODS\IDB311.M
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 31 13:38:35 1997
Response via : Multiple Level Calibration



High. MDL

The reason is
final volume = 5
&
additional dilution = 10
"due to matrix problem"

TPH = 52,800 mg/kg

B9152.D IDB311.M Tue Sep 23 10:46:00 1997 GCMSB

ACCUTEST

Report of Analysis

Page 1 of 2

Client Sample ID: S-19, 8'
Lab Sample ID: E25829-4
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 85.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7094.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.8	ug/kg	
71-43-2	Benzene	ND	1.2	ug/kg	
108-86-1	Bromobenzene	ND	0.75	ug/kg	
74-97-5	Bromochloromethane	ND	0.75	ug/kg	
75-27-4	Bromodichloromethane	ND	0.89	ug/kg	
75-25-2	Bromoform	ND	0.63	ug/kg	
104-51-8	n-Butylbenzene	ND	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	1.3	ug/kg	
75-00-3	Chloroethane	ND	1.3	ug/kg	
67-66-3	Chloroform	ND	0.85	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.85	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.76	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	0.95	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.9	ug/kg	
124-48-1	Dibromochloromethane	ND	0.86	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	1.1	ug/kg	
156-69-4	cis-1,2-Dichloroethylene	ND	0.98	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	0.92	ug/kg	
95-50-1	o-Dichlorobenzene	ND	0.95	ug/kg	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1.5	ug/kg	
98-82-8	Isopropylbenzene	ND	1.4	ug/kg	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-19, 8'
Lab Sample ID: E25829-4
Matrix: SO - Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 85.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K7094.D	1	09/23/97	YD	n/a	n/a	VK553
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	6.2	ug/kg	
74-83-9	Methyl bromide	ND	1.4	ug/kg	
74-87-3	Methyl chloride	ND	1.5	ug/kg	
74-95-3	Methylene bromide	ND	0.53	ug/kg	
75-09-2	Methylene chloride	ND	0.50	ug/kg	
78-93-3	Methyl ethyl ketone	ND	5.8	ug/kg	
91-20-3	Naphthalene	ND	2.4	ug/kg	
103-65-1	n-Propylbenzene	ND	1.2	ug/kg	
100-42-5	Styrene	ND	0.99	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.83	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.94	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.81	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.88	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.99	ug/kg	
127-18-4	Tetrachloroethylene	ND	1.0	ug/kg	
108-88-3	Toluene	ND	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	1.3	ug/kg	
75-01-4	Vinyl chloride	ND	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		80-120%
2037-26-5	Toluene-D8	83%		81-117%
460-00-4	4-Bromofluorobenzene	98%		74-121%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-19, 8'		
Lab Sample ID:	E25829-4	**Date Sampled:**	09/18/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	85.8
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C10436.D	1	09/22/97	WHS	09/19/97	OP2609	EC1287
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
95-57-8	2-Chlorophenol	ND	180	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	97	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	120	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	160	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	120	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	190	ug/kg	
88-75-5	2-Nitrophenol	ND	170	ug/kg	
100-02-7	4-Nitrophenol	ND	77	ug/kg	
87-86-5	Pentachlorophenol	ND	130	ug/kg	
108-95-2	Phenol	ND	140	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	250	ug/kg	
83-32-9	Acenaphthene	ND	190	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
120-12-7	Anthracene	ND	140	ug/kg	
92-87-5	Benzidine	ND	330	ug/kg	
56-55-3	Benzo(a)anthracene	ND	200	ug/kg	
50-32-8	Benzo(a)pyrene	ND	220	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	160	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	200	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	190	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	190	ug/kg	
91-58-7	2-Chloronaphthalene	ND	210	ug/kg	
106-47-8	4-Chloroaniline	ND	180	ug/kg	
218-01-9	Chrysene	ND	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	150	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	170	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	140	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	200	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	130	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	230	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	140	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	97	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	170	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	120	ug/kg	

ND = Not detected
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J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-19, 8'		
Lab Sample ID:	E25829-4	**Date Sampled:**	09/18/97
Matrix:	SO - Soil	**Date Received:**	09/19/97
Method:	SW846 8270	**Percent Solids:**	85.8
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C10436.D	1	09/22/97	WHS	09/19/97	OP2609	EC1287
Run #2							

ABN PPL List

CAS No.	Compound	Result	RDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	200	ug/kg	
84-74-2	Di-n-butyl phthalate	74.2	150	ug/kg	J
117-84-0	Di-n-octyl phthalate	ND	140	ug/kg	
84-66-2	Diethyl phthalate	ND	210	ug/kg	
131-11-3	Dimethyl phthalate	ND	150	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	220	ug/kg	
206-44-0	Fluoranthene	18.2	170	ug/kg	J
86-73-7	Fluorene	ND	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	150	ug/kg	
87-68-3	Hexachlorobutadiene	ND	130	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	77	ug/kg	
67-72-1	Hexachloroethane	ND	210	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	97	ug/kg	
78-59-1	Isophorone	ND	97	ug/kg	
91-20-3	Naphthalene	ND	150	ug/kg	
98-95-3	Nitrobenzene	ND	110	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	150	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	160	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	150	ug/kg	
85-01-8	Phenanthrene	ND	130	ug/kg	
129-00-0	Pyrene	ND	180	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	160	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	57%		25-121%
4165-62-2	Phenol-d5	98%		24-113%
118-79-6	2,4,6-Tribromophenol	81%		19-122%
4165-60-0	Nitrobenzene-d5	62%		23-120%
321-60-8	2-Fluorobiphenyl	63%		30-115%
1718-51-0	Terphenyl-d14	78%		18-137%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-19, 8'
Lab Sample ID: E25829-4
Matrix: SO - Soil
Method: SW846 8080
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 85.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF15907.D	1	09/22/97	AH	09/19/97	OP2607	GEF1236
Run #2							

PCB List

CAS No.	Compound	Result	RDL	Units	Q
12674-11-2	Aroclor 1016	ND	18	ug/kg	
11104-28-2	Aroclor 1221	ND	12	ug/kg	
11141-16-5	Aroclor 1232	ND	16	ug/kg	
53469-21-9	Aroclor 1242	ND	3.9	ug/kg	
12672-29-6	Aroclor 1248	ND	3.0	ug/kg	
11097-69-1	Aroclor 1254	ND	3.9	ug/kg	
11096-82-5	Aroclor 1260	ND	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		30-150%
877-09-8	Tetrachloro-m-xylene	66%		30-150%
2051-24-3	Decachlorobiphenyl	80%		30-150%
2051-24-3	Decachlorobiphenyl	83%		30-150%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blan
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: S-19, 8'
Lab Sample ID: E25829-4
Matrix: SO - Soil
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/18/97
Date Received: 09/19/97
Percent Solids: 85.8

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	<1.2	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Barium	51.1	23	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Cadmium	<0.58	0.58	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Chromium	2.6	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Lead	<12	12	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Mercury	<0.11	0.11	mg/kg	1	09/22/97	09/22/97	PGC	SW846 7471A
Selenium	<12	12	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A
Silver	<1.2	1.2	mg/kg	1	09/22/97	09/21/97	MMC	SW846 6010A

RDL = Reported Detection Limit

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: E25829-5
Matrix: AQ - Trip Blank Soil
Method: SW846 8260
Project: Falls Poultry, Livingston Manor

Date Sampled: 09/12/97
Date Received: 09/19/97
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I2898.D	1	09/22/97	JYZ	n/a	n/a	VI572
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.80	ug/l	
108-86-1	Bromobenzene	ND	0.88	ug/l	
74-97-5	Bromochloromethane	ND	0.77	ug/l	
75-27-4	Bromodichloromethane	ND	0.83	ug/l	
75-25-2	Bromoform	ND	0.85	ug/l	
104-51-8	n-Butylbenzene	ND	0.96	ug/l	
135-98-8	sec-Butylbenzene	ND	0.86	ug/l	
98-06-6	tert-Butylbenzene	ND	0.64	ug/l	
108-90-7	Chlorobenzene	ND	0.93	ug/l	
75-00-3	Chloroethane	ND	1.2	ug/l	
67-66-3	Chloroform	ND	0.88	ug/l	
95-49-8	o-Chlorotoluene	ND	0.96	ug/l	
106-43-4	p-Chlorotoluene	ND	0.88	ug/l	
56-23-5	Carbon tetrachloride	ND	0.57	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.67	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.79	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.1	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.2	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.73	ug/l	
124-48-1	Dibromochloromethane	ND	0.69	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.4	ug/l	
156-69-4	cis-1,2-Dichloroethylene	ND	0.80	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.87	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.87	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.1	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.65	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ug/l	
100-41-4	Ethylbenzene	ND	0.47	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	0.60	ug/l	

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	E25829-5	**Date Sampled:**	09/12/97
Matrix:	AQ - Trip Blank Soil	**Date Received:**	09/19/97
Method:	SW846 8260	**Percent Solids:**	n/a
Project:	Falls Poultry, Livingston Manor		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I2898.D	1	09/22/97	JYZ	n/a	n/a	VI572
Run #2							

VOA 8260 List

CAS No.	Compound	Result	RDL	Units	Q
99-87-6	p-Isopropyltoluene	ND	0.91	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.9	ug/l	
74-95-3	Methylene bromide	ND	0.90	ug/l	
75-09-2	Methylene chloride	ND	0.63	ug/l	
78-93-3	Methyl ethyl ketone	ND	0.73	ug/l	
91-20-3	Naphthalene	ND	0.70	ug/l	
103-65-1	n-Propylbenzene	ND	0.85	ug/l	
100-42-5	Styrene	ND	0.78	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.92	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.95	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.4	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.65	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ug/l	
127-18-4	Tetrachloroethylene	ND	0.87	ug/l	
108-88-3	Toluene	ND	0.85	ug/l	
79-01-6	Trichloroethylene	ND	0.71	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.88	ug/l	
75-01-4	Vinyl chloride	ND	1.6	ug/l	
1330-20-7	Xylene (total)	ND	1.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-118%
2037-26-5	Toluene-D8	99%		88-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

ND = Not detected
RDL = Reported Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates that analyte is found in associated method blank
N = Indicates presumptive evidence of a compound

SO
TB

TURNAROUND TIME
☒ ~~Normal~~ (14 DAY)
☒ Rush S16, 18+19
☒ Date Needed 9/23/97
per H. ERNST/NBV

per M. Johnson 9/19/97.

eder associates
LOCUST VALLEY, NEW YORK; TRENTON, NEW JERSEY;
ANN ARBOR, MICHIGAN; MADISON, WISCONSIN;
AUGUSTA, GEORGIA; JACKSONVILLE, FLORIDA; TAMPA, FLORIDA

8260 / 8270 = Full Lis
(VOC) (AE/BN) (NOT STA
Lis

CHAIN OF CUSTODY RECORD

LABORATORY NAME: Accutest
PROJECT NO.: 1482-26
PROJECT NAME: Armour-Swift, Falls Poultry
Project Contact: H. Ernst, M. Johnson
RESULTS TO: Marc Johnson, Eder, MA
INVOICE TO: Eder Associates

SAMPLE I.D. NO	DATE	TIME	No. Containers Comp	No. Containers Grab	SAMPLE LOCATION	ANALYSIS: SVOCs 8270, PCBs, Metals* BN/AE	ANALYSIS: VOCs-8260 ~~[illegible]~~ NBV	ANALYSIS	ANALYSIS	REMARKS: SAMPLE DESCRIPTIONS & OTHER ANALYSES
S-16 EYS8794	9/18/97	950		3	S-16, 9'	2	1			Soil 20,140 72 hr T/A
S-17 -2	9/18/97	1025		3	S-17, 4'	2	1			Soil 14 DAY (H
S-18 -3	9/18/97	1035		3	S-18	2	1			Soil contains oil 72 hr T/A
S-19 -4	9/18/97	1115		3	S-19, 8'	2	1			Soil 72 hr T/A
TB -5	9/19/97	~~1500~~ MB		2	Trip Blank TB spx n/o p. sfx label	–	2			– 819 14 DAY (~~[illegible]~~

72 hr T/A - DATA by 9/23/97.

*METALS = ~~As, Cd, Cr, Pb~~ HMB

Received from Laboratory by: (Signature)	Date/Time	Rec'd. Via: (By Carrier)	Laboratory Reference No.
Printed Name	Agent of:		

Relinquished by (Signature)	Date/Time	Agent of:	Rec'd. by (Signature)	Date/Time	Agent of:
Printed Name			Printed Name		
Relinquished by (Signature)	Date/Time	Agent of:	Rec'd. by (Signature)	Date/Time	Agent of:
Printed Name			Printed Name		

Relinquished by (Signature)	Date/Time 9/18/97 1300	Received for Laboratory by: (Signature)	Date/Time 9-19-97 0945 rec'd [illegible]	Instructions:
Printed Name Herbert Ernst		Printed Name R. VANBLARCOM		

Sampler (Signature) Herbert Ernst
Samplers Name (Printed) Herbert Ernst
Sample Condition
Shipped Via: Federal Express
Temp. of blank(°C)

Ship. Cont. OK ?	Y	N	N/A
Rec'd Refrig. ?	Y	N	N/A
Seals OK ?	Y	N	N/A
Samples Leaking ?	Y	N	N/A

Accutest
Job Change Order

Request Date/Time: 9/24/97 0:00
Client: Eder-MA
Phone #:

Accutest Job No. e25829
Client Project: Falls Poultry
CSR: MSV

Sample #: E25829-2
S-17
Change: Off hold. Run for analyses as requested.
10 day t/a.

Sample #:
Change:

Sample #:
Change:

Sample #:
Change:

Sample #:
Change:

Sample #:
Change:

Above Changes Per: Mark Johnson
Date: 9/24/97

Client Approval (Signature):

To Client: In order to process the changes outlined above, PLEASE ACCEPT THE CHANGE ORDER WITH SIGNATURE AND FAX BACK TO ACCUTEST.
FAX #: (908) 329-3499.

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 3
21 South Putt Corners Road, New Paltz, New York 12561-1696
Phone: (845) 256-3114 • **FAX:** (845) 255-2987
Website: www.dec.state.ny.us

John P. Cahill
Commissioner

March 22, 2001

FILE

SULLIVAN MANAGEMENT GROUP, LLC
1010 NORTHERN BLVD.
GREAT NECK NY 11021

Attention: Todd Pines

RE: **Site assessment/Tank closure summary**
Former Falls Poultry Facility, School Street, Livingston Manor
NYDEC Spill Number 94-10332 Sullivan County

Dear Mr. Pines:

The Department of Environmental Conservation has reviewed the site assessments and tank closure reports for the above referenced site. Based on the information in the reports dated March 9, 2001, this Department is not requiring additional remedial action at this time.

This closure pertains to the petroleum bulk storage and fuel storage mitigation activities only. Official closure of the dry well area, found on site, must be closed in accordance with EPA regulations governing Class V Injection wells. Other solid and hazardous waste issues must receive closure from the assigned Division of Environmental Remediation site investigator.

A copy of your Petroleum Bulk Storage Registration is attached. It shows there are still two 1,000 gallon underground #2 fuel oil tanks, which are now unregulated. Please make any corrections on the PBS registration application, including current owner and emergency contact, and submit it to this Department. If only the two fuel oil tanks remain, and they are both less then 1,100 gallons, there is no fee for this.

This Department does not take a position regarding whether the investigation undertaken is or is not adequate to fully assess potential environmental contamination at this site.

Please give me a call if you have any questions.

Sincerely,
Dolores Wehrfritz
Dolores Wehrfritz
Environmental Engineering Technician III

attachments:

cc: D.Traver
DW/file
SCHD
chron
John Conrad/Conrad Geoscience/8Raymond Ave/Poughkeepsie NY 12603
D.Bendell