96-454A50

REMEDIAL EVALUATION REPORT ADDENDUM

Former Lincoln Lace & Braid Company and
Providence Turners of Rhode Island Properties
Providence, Rhode Island

February 2003

Prepared for:

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PROVIDENCE, RHODE ISLAND

Prepared by:

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PROVIDENCE, RHODE ISLAND

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February 11, 2003

Mr. Frank Gally III
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Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

RE: Remedial Evaluation Report Addendum
Former Lincoln Lace and Braid Company and
Providence Turners of Rhode Island Properties
Providence, Rhode Island
RIDEM Case No. 2001-024

Dear Mr. Gally:

The purpose of this letter is to provide you with the attached Remedial Evaluation Report Addendum for the above-referenced properties. Fuss & O'Neill Inc. (Fuss & O'Neill) prepared this report of findings on behalf of the Rhode Island Department of Environmental Management (RIDEM), pursuant to your request.

If you have any questions or require additional information, please contact Chris Watson at (401) 861-3070, ext. 4579.

Sincerely,

Patrick J. Dowling
Hydrogeologist

John A. Chambers, P.G.
Sr. Project Manager

Enclosure: Remedial Evaluation Report Addendum

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REMEDIAL EVALUATION REPORT ADDENDUM
Former Lincoln Lace & Braid Company and Providence Turners of Rhode Island Properties

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1.0 OBJECTIVE

Fuss & O'Neill Inc. (Fuss & O'Neill) conducted supplemental environmental investigation and assessment activities at the former Lincoln Lace & Braid Company properties (Lincoln Lace properties) and the Providence Turners of Rhode Island properties (Turners properties), together referenced herein as "the site". The assessment activities documented herein were designed to supplement pre-existing data collected during previous environmental investigations, and this report has been developed as an addendum to the previously published Remedial Evaluation Report discussed below.

The specific objectives of the supplemental assessment activities documented herein were to:

- Conduct further subsurface exploration activities to determine the western extent of an identified solid-waste landfill at the site,
- Evaluate the nature and extent of hazardous materials present within the formerly uninvestigated portion of the former landfill,
- Determine the potential risks posed by any hazardous materials present in the former landfill,
- Develop potential alternatives for remediation of the site based upon a recreational reuse scenario, and
- Estimate the costs associated with implementation of the remedial alternatives to achieve closure of the landfill.

2.0 BACKGROUND

Previous environmental investigations have been conducted at the former Lincoln Lace properties and a limited portion of the Turners properties. Figure 1 depicts the location of the site. The results of these investigations were documented and submitted to the Rhode Island Department of Environmental Management (RIDEM) in two reports:

- Remedial Evaluation Report - Former Lincoln Lace and Braid Company Property, June 1999, prepared by Fuss & O'Neill, Inc.
- Pre-Design Investigation Report – Former Lincoln Lace and Braid Company Site, August 2000, prepared by Fuss & O'Neill, Inc.

These reports concluded that a former landfill was located in the northwest portion of the Lincoln Lace property. The lateral extent of the former landfill area was estimated at approximately 80,000 square feet. The depth of refuse in the former landfill generally extended 10 to 15 feet below grade across most of the former landfill footprint, although the thickness was slightly greater at the center of the former landfill. The on-site volume of the former landfill was estimated at approximately 30,000 cubic yards.

The reports also documented that the total surface area and volume of the former landfill may be somewhat larger, as full delineation of the extent of former landfill had not been completed. The majority of the former landfill was documented to exist on the Lincoln Lace property (Assessors Plat (A.P.) 133 Lot 440), but was also observed to extend onto the

adjacent properties to the west (A.P. 113 Lots 261 and 419; the Turners properties. The Turners properties directly abut the western edge of Lot 440, which is a portion of the Lincoln Lace property. At the time when these previous reports were written, the western extent of the landfill on the Turners properties was not determined because access to conduct investigations on that site had not been granted.

The groundwater beneath the subject site has been classified by RIDEM as GB, according to the Groundwater Classification Map included in the Rules and Regulations for Groundwater Quality.

Additional subsurface investigations were required to definitively delineate the western extent of the former landfill. The additional investigations documented herein were designed to delineate and characterize the western extent of the former landfill on the subject site. As such, this report of findings was prepared to act as an addendum to the previously submitted environmental reports.

3.0 PROJECT PLANNING

Prior to the commencement of subsurface field investigation activities at the subject site, steps were taken to ensure the effectiveness and efficiency of the proposed investigations. Measures were also taken to ensure that the quality of data gathered during the investigation would be sufficient to meet the investigation objectives. These project planning procedures are discussed below.

3.1 Work Scope

On January 8, 2002, Fuss & O'Neill submitted a work scope to RIDEM outlining the proposed investigation activities for the project. RIDEM conditionally authorized the work scope in a letter dated April 11, 2002. Subsequent to RIDEM's initial approval of the work scope, RIDEM and Fuss & O'Neill mutually agreed upon a revised scope of work. This revised scope of work was prepared by RIDEM and submitted to the United States Environmental Protection Agency (USEPA) in the Quality Assurance Project Plan (QAPP) for Further Delineation and Evaluation Activities at Properties Adjacent to the Former Lincoln Lace and Braid Property. The QAPP is discussed further below.

3.2 Aerial Photograph and Available Mapping Review

On May 3, 2002, Fuss & O'Neill personnel conducted a review of historical aerial photographs of the subject site. The purpose of this review was to visually observe the limits of filling on the subject site. Aerial photographs were reviewed at the Rhode Island Department of Statewide Planning for the years 1939, 1951, 1970, 1981, 1988, and 1992. A Sanborn Fire Insurance Map from 1956 was also obtained and reviewed to aid in the reconstruction of the history of the subject site with respect to landfilling activities.

The results of the aerial photograph review and mapping review were inconclusive in determining the lateral extent of filling operations at the subject site.

3.3 Quality Assurance Project Plan

As discussed above, RIDEM prepared and submitted a QAPP to USEPA for the proposed subsurface investigations at the subject site. The QAPP was prepared to outline the requirements necessary to ensure that data collection operations and field and laboratory procedures would be consistent with generally accepted standards and would generate the quality of data necessary to meet the project objectives. The QAPP was originally submitted to USEPA on May 17, 2002. Subsequent to limited USEPA comments, RIDEM revised the document and resubmitted the QAPP on July 7, 2002.

The QAPP was approved on July 16, 2002 in a memorandum to RIDEM from Mr. Alan Peterson of the USEPA Quality Assurance Unit.

4.0 FIELD INVESTIGATIONS

4.1 Test Pit Excavation

On September 5, 2002, Fuss & O'Neill personnel, accompanied by RIDEM personnel, conducted a targeted test pit investigation on the subject site. The test pits were excavated by Clean Harbors of Rhode Island utilizing a track-mounted excavator with a maximum reach of approximately fifteen feet below grade. Test pit field logs and photographs are attached.

A total of nine test pits, designated TP-38 through TP-46, were excavated at the site over the course of one day. At locations were refuse was encountered, test pits were excavated to a depth coinciding with the lower limit of refuse, or to the vertical reach of the excavator. At locations were no refuse was encountered, test pits were excavated to a depth of approximately five to eight feet below grade.

4.2 Soil Sampling

Soil samples were collected for laboratory analysis from test pits that contained refuse associated with the former landfill. Native soil situated immediately beneath the landfill refuse was targeted for sample collection for both field screening and laboratory analysis. However, in one test pit (TP-41), native soil beneath the refuse was not encountered, and therefore a soil sample was collected from within the refuse layer. The locations of all test pit samples are presented on the attached site plan.

Soil samples were collected utilizing pre-cleaned, dedicated, disposable sampling equipment. Select soil samples were field screened utilizing the bag headspace method with a photoionization detector (PID) calibrated to isobutylene. All soil samples collected for laboratory analysis were analyzed for volatile organic compounds (VOC) by EPA Method 5035/8260B, semi-volatile organic compounds (SVOC) by EPA method 8270C, and total petroleum hydrocarbons (TPH) by EPA Method 8100M.

In addition to the soil samples collected from test pits, two additional surficial soil samples (SS-51 and SS-52) were collected from the landfill cover material. These samples were analyzed for priority pollutant thirteen (PP13) metals and SVOC.

In accordance with the QAPP, one duplicate soil sample was collected from a selected test pit (TP-42), and submitted blindly to the laboratory for analysis of VOC, SVOC, and TPH. One trip blank was submitted for analysis of VOC. Since dedicated sampling equipment was utilized at each sample location, no rinsate blanks were required.

4.3 Property Survey

Municipal research and field surveying activities necessary to complete a Class I survey were conducted on the subject site. The information gained through the survey of the subject site was compiled with preexisting survey data from the Lincoln Lace site. A comprehensive site plan depicting the Lincoln Lace site and the Providence Turners site is attached as Figure 2.

5.0 INVESTIGATION RESULTS

5.1 Refuse Characterization

Two different distinguishable types of foreign material were encountered during the excavation of test pits at the site. These materials included "refuse" and "fill."

Refuse: Refuse was observed in many test pits. For the purposes of this investigation, refuse is defined as solid waste material consisting of, but not limited to, glass and plastic bottles, aluminum cans, plastic bags, fabric, rubber, scrap metal, paper, and construction and demolition debris. The refuse material is considered to be representative of the material historically disposed of in the former landfill.

Fill: Fill material was also observed in several test pits. For the purposes of this investigation, fill is defined as material consisting of, but not limited to, concrete, masonry, bricks, asphalt, stones, and soil. Fill was observed both mixed with refuse and as a separate phase (i.e. exclusively fill material with no refuse mixed in with it).

5.2 Landfill Delineation

Based upon the observations collected during the test pit excavation, Fuss & O'Neill infers that the western edge of the former landfill is delineated as depicted on the attached site plan. For the purposes of this delineation, the edge of the landfill was assumed to coincide with the termination of the presence of refuse. Fill material was observed in test pits located outside of the inferred landfill footprint. However, fill material that was not mixed with refuse was not considered solid waste, and was therefore not considered part of the landfill.

Specifically, four test pits, TP-39, TP-43, TP-46, and TP-45, were observed to be free of refuse, and refuse was observed to terminate within test pit TP-44. The locations of these test pits were used to generally demarcate the western extent of the former landfill.

In the northwestern corner of the former landfill, the topography drops steeply downward to the banks of the Woonasquatucket River. Based on the observed surface topography of the subject site, Fuss & O'Neill infers that the northwestern corner of the former landfill terminates at the toe of the downward slope. This area was inaccessible to heavy equipment for verification of refuse termination.

Based upon the existing survey information of the Lincoln Lace site and the recently completed Class I Survey of the Turners Property, Fuss & O'Neill estimates the total size of the former landfill is approximately 2.1 acres. The observed limits of the landfill are depicted on Figure 2.

5.3 Analytical Results

VOCs: Copies of laboratory analytical results are attached. VOCs were not detected in soil samples collected from any of the test pits at concentrations exceeding the RIDEM Residential Direct Exposure Criteria (R-DEC) or the RIDEM leachability criteria promulgated for areas with GB groundwater classification. Field screening of soil samples during test pit excavation did not indicate concentrations of total VOC greater than the detection limit of the PID of 0.1 parts per million (ppm).

TPH: A slight exceedance of the R-DEC for TPH was detected in the soil sample collected from test pit TP-41 (513 mg/kg) at ten feet below grade. This soil sample was collected from within the refuse layer in this test pit. All other soil samples contained TPH at concentrations less than the R-DEC.

SVOCs: SVOCs were detected in soil samples collected from within the test pits at concentrations exceeding the R-DEC and/or the RIDEM Industrial/Commercial Direct Exposure Criteria (I/C-DEC). SVOC exceedances were detected in native soil (underlying refuse) in test pits TP-38, TP-40, and TP-44. The soil sample collected from within the refuse layer in test pit TP-41 also indicated exceedances of the R-DEC and I/C-DEC for several compound. The reported SVOC concentrations in the soil/refuse sample collected from TP-41 were generally an order of magnitude greater than the detected concentrations in the native soil samples collected from the other test pits.

Metals: Laboratory analysis for PP13 metals was only conducted on the two surficial soil samples obtained from the landfill cover material (SS-51 and SS-52). Arsenic was the only metal reported to exceed the RIDEM R-DEC in both samples. No exceedances of the I/C-DEC were reported.

Generally, the majority of the refuse observed during the investigation was in the five test pits located on the eastern side of the existing chain link fence that marks the eastern edge of the Providence Turners parking lot. On the eastern side of the fence, the refuse layer was observed in two locations at a thickness greater than ten feet. Little to no refuse (one foot or less) was observed in test pits excavated on the western side of the fence within the Providence Turners' parking lot.

6.0 CONCLUSIONS

Generally, the majority of the refuse observed during the investigation was in the test pits located on the eastern side of an existing chain link fence that marks the eastern edge of the Providence Turners parking lot. On the eastern side of the fence, the refuse layer was observed in two locations at a thickness greater than ten feet. Little to no refuse (one foot or less) was observed in test pits excavated on the western side of the fence within the Providence Turners' parking lot. Therefore, based upon the research and field investigations documented herein, Fuss & O'Neill infers that western limits of the former landfill on the subject sites are as depicted on the attached site plan.

Subsequent to field activities, a Class I survey was performed on the subject site. Based on the Class I survey, and the existing survey information for the Lincoln Lace site, Fuss & O'Neill estimates the size of the entire former Lincoln Lace landfill is 2.1 acres (see Figure 2).

Further, analytical results indicate that the refuse present within the portion of the former landfill location on the subject site contains concentrations of TPH and SVOC that exceed the applicable R-DEC. However, no exceedances of the GBLC were reported.

7.0 LANDFILL CLOSURE ALTERNATIVES

Fuss and O'Neill evaluated potential closure options at the former landfill relative to 1) the remediation goals for the site; to mitigate risks posed by the former landfill to human health and the environment and 2) the proposed site redevelopment plan; construction of a bicycle path and open space.

Four landfill closure alternatives were selected as the most applicable alternatives to accomplish the remediation and site redevelopment goals. The alternatives evaluated herein are (1) natural attenuation, (2) excavation and off-site disposal of contaminated soil and refuse, (3) construction of a two-foot thick soil cap, and (4) construction of a RCRA Subtitle D cap. Each alternative was evaluated for the specific criteria outlined in Section 7.04 of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). Fuss & O'Neill also developed an opinion of cost for each remedial alternative. These cost estimates are attached in Appendix E. A discussion of each potential alternative is presented below.

7.1 Natural Attenuation

Remediation by natural attenuation has been documented to be an acceptable remediation strategy at some contaminated sites. Remediation by natural attenuation relies on naturally occurring biological, chemical, and physical processes to reduce concentrations of contaminants in site soil and groundwater. This remediation strategy is often accompanied by a monitoring program to document the decreasing trends of site contaminants (e.g. monitored natural attenuation (MNA)).

7.1.1 Risk Management

Utilizing natural attenuation as a remedial alternative at the site would not comply with Section 8 (Risk Management) of the Remediation Regulations. Concentrations of metals, total petroleum hydrocarbons (TPH), and semi-volatile organic compounds (SVOC) were detected in site soil at concentrations exceeding the applicable RIDEM Direct Exposure Criteria (DEC). These contaminants currently pose a potential risk to human health and the environment. In addition, many of these contaminants are not effectively degraded by natural attenuation processes.

Since the site is slated for redevelopment, the former landfill will be accessible to individuals utilizing the site. Therefore, the selected remedial alternative for the site will need to mitigate the potential for direct human exposure to site soil in the former landfill.

7.1.2 Technical Feasibility

Since natural attenuation does not require active remediation or construction activities, this alternative is technically feasible.

7.1.3 Compliance with State and Local Laws or Other Public Concerns

Since natural attenuation does not meet the requirements of Section 8 (Risk Management) of the Remediation Regulations, this remedial alternative does not comply with applicable state laws. In addition, since the subject site would be accessible to the public, the presence of accessible contaminated soil and refuse would not comply with public concerns.

7.1.4 Financial Feasibility

Natural attenuation as a remedial alternative does not require active remediation or construction activities; therefore, this alternative does not have associated costs, and is therefore financially feasible.

7.2 Excavation and Off-Site Disposal of Soil and Refuse

Excavation and off-site disposal of all refuse and affected soil within the landfill boundary would be an effective way of reducing source materials at the former landfill by physically removing the materials from the site.

7.2.1 Risk Management

By removing the exposed and buried refuse and contaminated soil from the site, long-term risks to human health and the environment at the site would be mitigated.

However, during excavation and transportation of refuse and contaminated soil, there would be significant short-term high-intensity direct exposure risk to human health at or near the former landfill as well as at the final destination of the excavated materials. Since the former landfill is located in a densely populated urban area, the number of individuals

potentially affected by the movement of the refuse and contaminated soil would be considerable. In addition, moving of the refuse and soil to a new location would not eliminate the long-term exposure risks associated with these materials. The long-term exposure risk associated with the material would continue to exist at the final destination of the materials. This alternative would, in effect, be moving the entire landfill to a new location.

7.2.2 Technical Feasibility

Implementation of excavation and off-site disposal of refuse and contaminated soil as a remedial alternative is technically feasible. However, the volume of material that would require excavation, transportation, and disposal would be excessive, resulting in significant disturbance of the site and surrounding wooded areas, as well as increased short-term exposure risk at the site and surrounding areas. Although technically feasible, a project of this nature would be an extremely large undertaking.

7.2.3 Compliance with State and Local Laws or Other Public Concerns

Implementation of excavation and off-site disposal of refuse and contaminated soil as a remedial alternative would comply with Section 8 of the Remediation Regulations as well as other state and local laws.

7.2.4 Financial Feasibility

The costs of excavation, transportation, and disposal of small volumes of refuse and contaminated soil would likely not be excessive. However, the costs of excavation, transportation, and disposal of all refuse and contaminated soil within the landfill as well as costs to refurbish the site would be extremely high due to the large volume of material. Consequently, excavation and off-site disposal is considered financially unfeasible.

The cost for remediation of the former landfill utilizing excavation and off-site disposal as a remedial alternative is estimated to be $1,600,000 (see Appendix E).

7.3 Two-Foot-Thick Soil Landfill Cap

A third potential remedial alternative for the former landfill is capping the refuse and contaminated soil in place to render the materials inaccessible, thus mitigating the potential for direct exposure to these materials. Since the potential for direct exposure to landfill refuse and contaminated soil is driving the closure of the site, capping would meet the identified remediation goals. Capping would involve covering the entire former landfill footprint with two feet of clean fill.

In conjunction with soil capping, implementation of an Environmental Land Usage Restriction (ELUR) would be required at the site. The ELUR would restrict future usage of the site and would ensure the integrity of the soil cap through inspection and reporting requirements. Since the future development plans for the site include open space and a

bicycle path, an ELUR will not adversely impede development plans or land usage in the foreseeable future.

7.3.1 Risk Management

Capping will prevent direct exposure to underlying refuse and contaminated soil, thereby mitigating risks associated with these materials, and complying with Section 8 of the Remediation Regulations.

Currently, some cover material is present over the refuse in the former landfill. Based upon observations made during the field investigations, between one-half and two feet of cover is present across the majority of the landfill. Laboratory analytical results of two cover material samples indicated that the material contained concentrations of arsenic that exceeded the R-DEC in both samples. Also, analytical data from shallow soil samples previously collected on other portions of the Lincoln Lace properties indicated that a majority of the samples exceeded the R-DEC for arsenic. Therefore, it is presumed that most of the cover material existing on the former landfill contains arsenic at concentrations exceeding the R-DEC.

Consequently, since the thickness of the landfill cover varies significantly over the landfill, and concentrations of arsenic exceeding the R-DEC are present, the existing cover material is presumed to be insufficient for mitigating potential direct exposure to hazardous materials. Therefore, the refuse and existing soil cap would be capped by an additional two feet of clean fill.

7.3.2 Technical Feasibility

The capping of refuse and contaminated soil with two feet of clean fill is technically feasible. The Performing Party would be technically capable of executing a construction project of this nature. Since the site is to be redeveloped as open space and a bicycle path, the implementation of an ELUR would not impede land usage in the foreseeable future.

7.3.3 Compliance with State and Local Laws or Other Public Concerns

Since no exceedances of the GB Leachability Criteria (GBLC) were detected in site soil, implementation of soil capping in conjunction with the filing of an ELUR would comply with Section 8 of the Remediation Regulations as well as other state and local laws.

7.3.4 Financial Feasibility

Capping of the landfill with two feet of clean fill is considered a cost effective closure alternative for the Performing Party to reach the remediation goals. The cost for remediation of the former landfill through construction of a two-foot-thick soil cap is estimated to be $280,000 (see Appendix E).

7.4 RCRA Subtitle D Landfill Cap

An additional remedial alternative is to close the former landfill by capping the site with a RCRA Subtitle D landfill cap. A RCRA Subtitle D Cap would consist of a combination of a geotextile fabric and a geomembrane liner, used in conjunction with soil cap. In some instances, particularly when there is a threat for leachate to migrate from a landfill, a RCRA Subtitle D Cap is preferable to a two-foot-thick soil cap. A RCRA Subtitle D cap would limit the amount of leachate migrating from a landfill by reducing the amount of precipitation being exposed to the buried refuse. This objective is typically met by applying a low-permeability material over the refuse.

As with the two-foot-thick soil cap, implementation of an ELUR would be required at the site in conjunction with a RCRA Subtitle D cap. An ELUR would not adversely impede development plans or land usage in the foreseeable future.

7.4.1 Risk Management

Based upon the on-site environmental investigations conducted to date, direct exposure to the refuse and shallow contaminated soil in the former landfill is the primary exposure concern. A RCRA Subtitle D cap would prevent direct exposure to underlying refuse and contaminated soil, thereby mitigating risks associated with these materials, and complying with Section 8 of the Remediation Regulations.

Results of groundwater samples collected from on-site monitoring wells did not indicate that groundwater conditions at the site are significantly degraded, or that contaminated leachate is migrating from the landfill. In addition, no exceedances of the GBLC were detected in soil samples collected from within the on-site landfill. Therefore, a low-permeability landfill cap is not fundamental in preventing leaching or migration of groundwater from the landfill.

7.4.2 Technical Feasibility

The capping of refuse and contaminated soil with a RCRA Subtitle D Cap is technically feasible. The Performing Party would be technically capable of executing a construction project of this nature. Since the site is to be redeveloped as open space and a bicycle path, the implementation of an ELUR would not impede land usage in the foreseeable future.

7.4.3 Compliance with State and Local Laws or Other Public Concerns

Closure of the landfill by constructing a RCRA Subtitle D cap and instituting an ELUR would comply with Section 8 of the Remediation Regulations as well as other state and local laws.

7.4.4 Financial Feasibility

A RCRA Subtitle D cap is generally a financially feasible remedial alternative for closure of the on-site landfill. However, construction of a RCRA Subtitle D cap would require a

significant initial expenditure by the Performing Party for construction costs. Since no exceedances of the GBLC were detected in site-soil, the benefits of a RCRA Subtitle D cap (i.e. reducing leachate migrating from the landfill) would not be realized. Therefore, the costs to construct a RCRA Subtitle D cap are not warranted.

The cost for remediation of the former landfill through construction of a RCRA Subtitle D cap is estimated to be $735,000 (see Appendix E).

8.0 CONCEPTUAL REMEDIATION PLAN

Based upon the technical feasibility and cost-efficiency evaluation presented above, the most feasible and appropriate remedial alternative for the site is alternative (3), capping the former landfill with a two-foot-thick soil cap. This remedial alternative will effectively mitigate the risks of direct exposure to contaminated soil and buried refuse at the site, while facilitating site redevelopment. In conjunction with soil capping, an ELUR should be implemented to restrict future site activities. Additionally, a Soil Management Plan (SMP) should be implemented to outline procedures for managing contaminated soil and refuse remaining on the site.

TABLES

Table 1

Properties Adjacent to Former Lincoln Lace and Braid Landfill
Providence Turners of Rhode Island Properties
Summary of Parameters in Soil
September 5, 2002

		TP-38	TP-40	TP-41	TP-42	TP-42 (Dup)	TP-44	SS-51	SS-52	R-DEC	I/C-DEC	GB Leachability Criteria
	Depth	2'	3'	10'	16.5	16.5	3.5'	0-1'	0-1'			
	Sample #	601020905-01	601020905-02	601020905-03	601020905-04	601020905-05	601020905-08	601020905-06	601020905-07			
Metals	Units											
Arsenic	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	**2.19**	**2.27**	1.7	3.8	NE
Berylium	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	0.158	0.245	0.4	1.3	NE
Chromium	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	25.1	19.5	390	10,000	NE
Copper	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	8.71	43.3	3,100	10,000	NE
Lead	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	14	66	150	500	NE
Nickel	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	20	20.7	1,000	10,000	NE
Zinc	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	22.7	83	6,000	10,000	NE
TPH	mg/kg	101	73	**513**	ND<26	ND<25.9	289	N/A	N/A	500	2,500	NE
VOC												
1,2-Dichlorobenzene	µg/kg	ND<49.3	ND<40.1	ND<39.8	ND<32.8	ND<34.3	69.5	N/A	N/A	NE	NE	NE
Napthalene	µg/kg	ND<49	ND<40	1,700	ND<33	ND<34	ND<49	N/A	N/A	54,000	10,000,000	NE
Tetrachloroethene	µg/kg	ND<49	ND<40	78	ND<33	ND<34	455	N/A	N/A	12,000	110,000	4,200
Trichloroethene	µg/kg	ND<49	91	ND<40	ND<33	ND<34	89	N/A	N/A	13,000	520,000	20,000
SVOC												
Acenapthene	µg/kg	ND<378	ND<364	1,940	ND<343	ND<357	ND<765	ND<367	ND<372	43,000	10,000,000	NE
Anthracene	µg/kg	1,120	ND<364	6,070	ND<343	ND<357	ND<765	ND<367	ND<372	35,000	10,000,000	NE
Benzo[a]anthracene	µg/kg	**2,030**	**947**	**15,200**	ND<343	ND<357	**1,220**	ND<367	ND<372	900	7,800	NE
Benzo[a]pyrene	µg/kg	**1,860**	**988**	**13,100**	ND<343	ND<357	**1,390**	ND<367	ND<372	400	800	NE
Benzo[b]fluoranthene	µg/kg	**1,410**	786	**9,760**	ND<343	ND<357	**1,550**	ND<367	424	900	7,800	NE
Benzo[g,h,i]perylene	µg/kg	**1,260**	ND<364	**8,330**	ND<343	ND<357	**918**	ND<367	ND<372	800	10,000,000	NE
Benzo[k]fluoranthene	µg/kg	**2,170**	**1,030**	**12,900**	ND<343	ND<357	**1,170**	ND<367	ND<372	900	78,000	NE
Bis[2-ethylhexyl]phtha	µg/kg	409	ND<364	ND<1,900	ND<343	ND<357	ND<765	ND<367	ND<372	46,000	410,000	NE
Chrysene	µg/kg	**2,040**	**1,040**	**15,900**	ND<343	ND<357	**1,560**	ND<367	ND<372	400	780,000	NE
Fluoranthene	µg/kg	4,040	1,940	**23,200**	ND<343	ND<357	1,610	ND<367	527	20,000	10,000,000	NE
Fluorene	µg/kg	444	ND<364	3,370	ND<343	ND<357	ND<765	ND<367	ND<372	28,000	10,000,000	NE
Indeno[1,2-cd]pyrene	µg/kg	839	ND<364	**5,470**	ND<343	ND<357	ND<765	ND<367	ND<372	900	7,800	NE
Napthalene	µg/kg	ND<378	ND<364	2,170	ND<343	ND<357	ND<765	ND<367	ND<372	54,000	10,000,000	NE
Phenanthrene	µg/kg	4,270	1,610	24,600	ND<343	ND<357	1,170	ND<367	ND<372	40,000	10,000,000	NE
Pyrene	µg/kg	4,880	2,940	**40,200**	ND<343	ND<357	4,640	ND<367	633	13,000	10,000,000	NE

Notes:
R-DEC = Residential Direct Exposure Criteria
I/C-DEC = Industrial/Commercial Direct Exposure Criteria
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
ND<# = Not detected above the laboratory minimum detection limit of #
TPH = Total petroleum hydrocarbons (EPA Method 8100M)
VOC = Volatile organic compounds (EPA Method 5035/8260B)
SVOC = Semivolatile organic compounds (EPA Method 8270C)
TP = Test pit
SS = Surficial soil
NE = No numerical criteria established
N/A = Not analyzed
Only parameters with one or more detection are shown
Exceedances of R-DEC in boldfaced and underlined

FIGURES

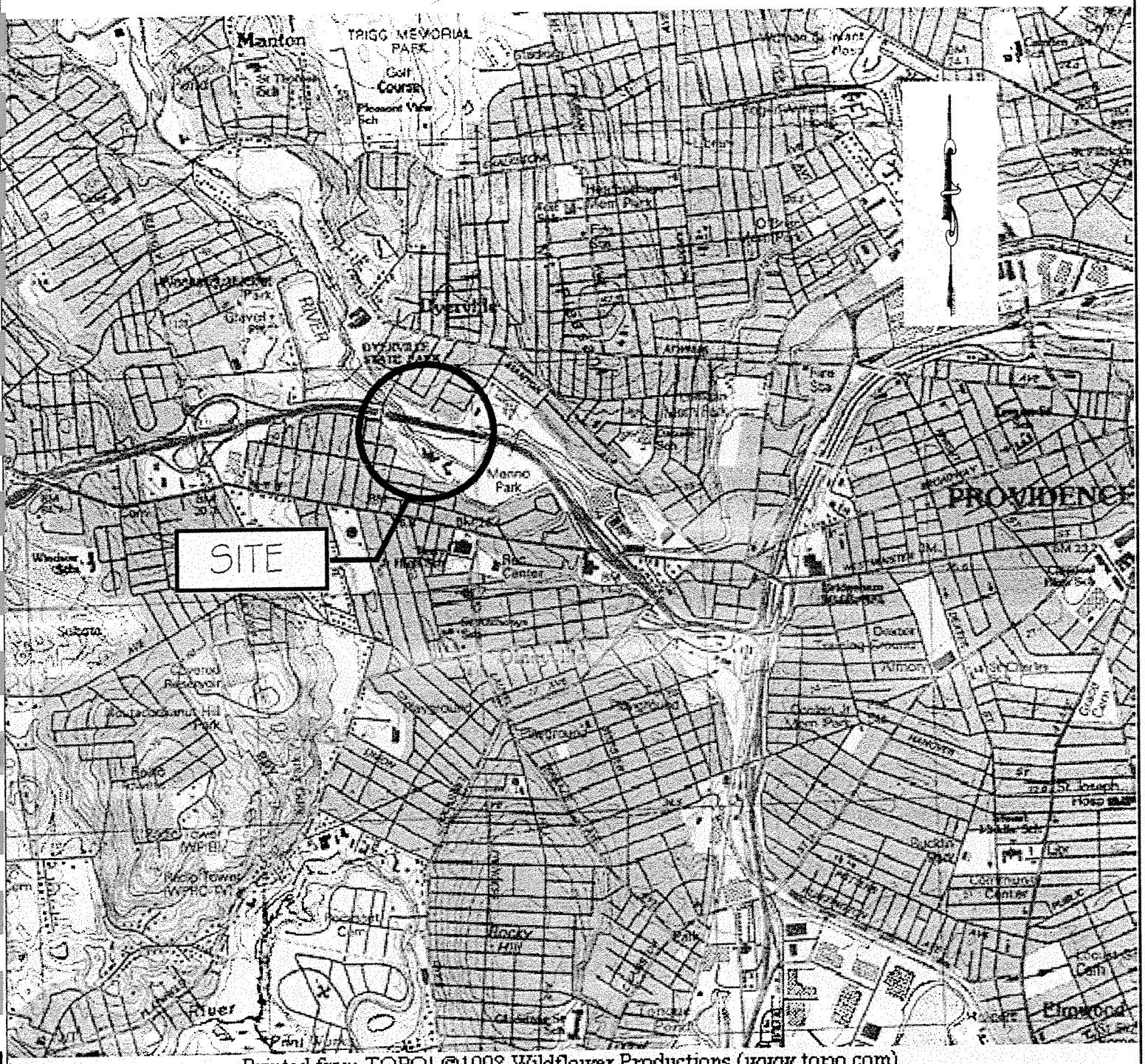

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FIGURE 1

FUSS & O'NEILL INC. Consulting Engineers
275 PROMENADE ST., SUITE 350, PROVIDENCE, R.I. 02908
(401) 861-3070

SITE LOCATION MAP

FORMER LINCOLN LACE & BRAID CO.

PROVIDENCE, RHODE ISLAND

JOB NUMBER	SCALE	DATE	SHEET NO. 1 OF 1
96454A50	NTS	FEB. 2003	

MAP REFERENCE

1. REFERENCE – PLAN OF LAND FOR AP 113, LOTS 429, 305, & 281, DATA ACCUMULATION SURVEY, DRAWN BY FUSS & O'NEILL INC., 275 PROMENADE STREET, PROVIDENCE, RHODE ISLAND 02908.

2. REFERENCE – BOUNDARY SURVEY PLAN OF LAND OF PROVIDENCE TURNERS ACESSOR'S MAP 113 LOTS 261 & 415 GLENBIDGE AVE., MELISSA STR. AND R.I. ROUITE 6, PROVIDENCE, RHODE ISLAND.

L E G E N D

P-01	DEBRIS PILE (APPROXIMATE)
SS-44	SEDIMENT SAMPLE (APPROXIMATE)
VP-1	VAPOR POINT
SG-11	SOIL GAS SAMPLE
SS-51	SURFICIAL SOIL SAMPLE
B-01	GEOPUSH GROUNDWATER BORING
TP-28	TEST PIT
(NR)	NO REFUSE OBSERVED
(2)	OBSERVED DEPTH OF REFUSE
MW-5	MONITORING WELL
IR (FND.)	IRON ROD
DP-1	DENSITY POINT (APPROXIMATE)
60	EXISTING CONTOUR LINE
	PROPERTY LINE
	LIMIT OF LANDFILL
	EXISTING FENCE
	LIMIT OF WETLANDS
	EDGE OF WATER

AOC#1 FORMER LANDFILL/DUMP LOCATION

WOONASQUATUCKET RIVER

LIMITS OF LANDFILL

SEE STATE HIGHWAY PLANS NOS. 1206 AND 1205

POSITION OF MELISSA STREET ABANDONED BY CITY COUNCIL RESOLUTION 185-85 APPROVED FEBRUARY 16, 1974 NOTE 3

EXISTING TREELINE N/F THE TRUSTEES PUBLIC LAND

N/F EDMUND GIOVANNUCCI AND DELORES L. GIOVANNUCCI

MELISSA STREET

241.54' (R-240'±)

AP. 113 LOT 440 115,129.13 S.F. 2.6 Ac. N/F PACE ENTERPRISE INC.

Δ=54°14'57" R=460.00' L=439.00' C=413.83'

50 0 50 100 150

SCALE: 1" = 50'

FIGURE 2

FUSS & O'NEILL INC. Consulting Engineers
THE FOUNDRY CORPORATE OFFICE CENTER
275 PROMENADE STREET, SUITE 350, PROVIDENCE, RI. 02908
(401) 861-3070

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
FORMER SOLID WASTE LANDFILL
FORMER LINCOLN LACE & BRAID SITE
MELISSA ST. & GLENBRIDGE AVE. PROVINCE, R.I.

JOB NUMBER	SCALE	DATE	SHEET NO.
96454A50	1"=50'	Feb., 2003	1 OF 1

11x17-96454A50(01).dwg

APPENDIX A

TEST PIT LOGS

Test Pit # 38

Location: 22' East of Northeast Corner of Turner Dance Addition

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/5/2002
Time:	0900
Sample Number:	601020905-01
Logged By:	PJD

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Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	0.5	Loam - roots
0.5	1	Refuse - bottles, cans, rags, scrap metal, rubber
1	6	Fine sandy loam, roots

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	8 x 4
TOTAL DEPTH	6'
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	Continuous
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: Collected sample 601020905-01 @ 2' below grade

Test Pit # 39

Location: 20' East of Turner Dance Addition
28' South of Northeast Corner of Addition

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	N/A
Logged By:	PJD

Fuss & O'Neill, Inc.
Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	1	Loam
1	5	Fine to coarse sand and gravel, some cobbles

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	6 x 4
TOTAL DEPTH	5
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	0
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: No refuse. Native material. No samples collected.

Test Pit # 40

Location: 42' North of Northeast Corner of Turner Dance Addition
20' East of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	601020905-02
Logged By:	PJD

Fuss & O'Neill, Inc.
Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	2	Loam, roots
2	2.5	Minimal amounts of refuse, plastic bottles mixed with soil, 1 tire
2.5	5	Sandy loam and gravel

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	4x10
TOTAL DEPTH	5
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	0' 2'
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: Very thin lens of refuse (maybe just litter) @ 2'. Sample 601020905-02 collected at 3', just below refuse.

Test Pit # 41

Location: 20' North of Northeast Corner of Turner Dance Addition
4' East of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	601020905-03
Logged By:	PJD

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Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	1.5	Loam
1.5	10	Refuse mixed with fine to coarse sand and gravel
		Refuse: Masonry, asphalt, bottles, cans, plastic, concrete, large logs
		-hole continuously collapsing. Could not excavate deeper than 10'
		-deeper refuse mainly consists of construction debris: concrete, brick, asphalt shingles

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	6 x 14
TOTAL DEPTH	10
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	0
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: Collect sample 601020905-03 @ 10'

Test Pit # 42

Location: 18' South of Northeastern Fence Corner
10' East of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	601020905-04, -05
Logged By:	PJD

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Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	1	Loam, roots
1	4	Fill material: concrete, granite blocks, gravel
4	16	Refuse: bottles, metal, plastic, paper, scrap of newspaper dated March 1973
16	16.5	Fine to coarse sand, some gravel, orangey brown - looks like native material

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	4x12
TOTAL DEPTH	16.5
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	0
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: Collect sample 601020905-04, 05 from excavator @ ~16.5' - (duplicate samples)

Test Pit # 43

Location: 9' North of Northeast Corner of Original Turner Dance Building

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	N/A
Logged By:	PJD

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Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	6	Fine to coarse sand and gravel, no refuse.
		PVC pipe @ 2' parallel with the southern wall of pit. Not disturbed by excavation (partially exposed in wall of TP)
		Many large stones piled up at east end of TP. Minimally disturbed by excavation, looks like fill for addition or potentially old cesspool. No soil between stones, large voids.
		A limited amount of water came into excavation from within the pile of rocks @ 6'.

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	6
TOTAL DEPTH	
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	N/A
DEPTH TO WATER	6'
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: No refuse.

Test Pit # 44

Location: 29' South of Northeast Corner of Fence
7' West of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	1500
Sample Number:	601020905-08
Logged By:	PJD

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Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	2	Loam, very small amounts of refuse mixed in with soil; plastic bottles.
2	3	Refuse: plastic bottles, glass, metal, pinches out within testpit, 16' from fence.
3	8	Fill, no refuse, rocks, some concrete. Fine to coarse sand and gravel, asphalt.

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	4x10
TOTAL DEPTH	8
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	N/A
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS:

Test Pit #45

Location: 40' West of Northeast Corner of Fence
4' South of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	N/A
Logged By:	PJD

Fuss & O'Neill, Inc.
Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	0.5	Loam, grass - underlain by fabric liner
0.5	6	Fill: No refuse, fine to medium sand and gravel, some cobbles, some granite blocks, some silt. One small pocket of plastic bags on north wall of pit - very limited in size ~2' wide, 6" deep.

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	3x10
TOTAL DEPTH	6
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	0
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: No samples collected. No refuse.

Test Pit # 46

Location: 47' North of Northeast Corner of Building Addition
3' West of Fence

Project Name:	RIDEM - TurnerDance
Project Number:	1996454.A50
Date:	9/27/2001
Time:	---
Sample Number:	N/A
Logged By:	PJD

Fuss & O'Neill, Inc.
Consulting Engineers
275 Promenade Street
Suite 350
Providence, RI 02908

DEPTH (ft below grade) FROM	TO	SOIL DESCRIPTION
0	4"	Pavement
0.5'	7	Fill material: Fine to medium sand, some silt, some gravel and cobbles. Limited amounts of brick and asphalt.
		Asphalt layer @ ~ 3' - this layer seems to be generally continuous over entire parking area (observed in several other test pits). Looks like an old parking lot that was buried with fill.

APPROX. SURFACE ELE. (FT-MSL)	N/A
DIMENSIONS OF PIT:	4x10
TOTAL DEPTH	7
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	1'
DEPTH TO WATER	N/A
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION:	Backhoe
FIELD INSTRUMENT:	PID

TEST PIT SKETCH:

See Site Plan for Test Pit Location

COMMENTS: No refuse - only fill.

APPENDIX B

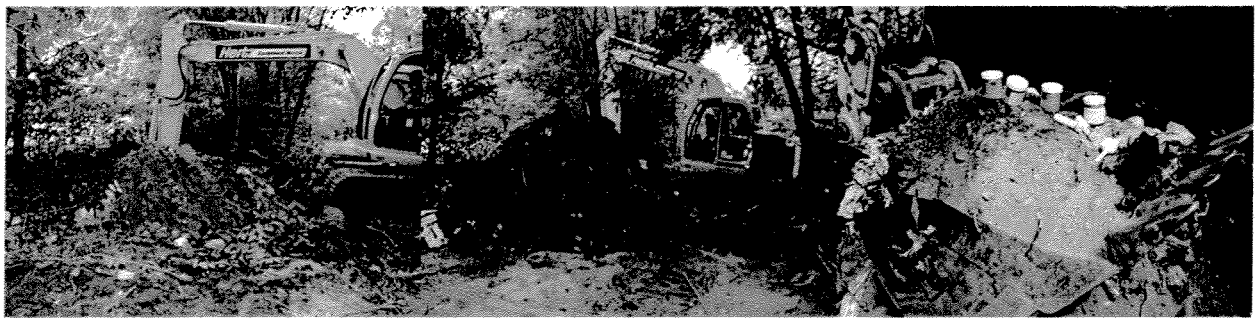
TEST PIT PHOTOGRAPHS

RIDEM – TURNER DANCE STUDIO INVESTIGATION

TEST PIT PHOTOS

September 5, 2002

TP-38 TP-40 TP-41 TP-42



TP-41 TP-42 TP-42

TP-44 TP-45 TP-46

F:\P96\96454\A50\photos\Test Pit Photos.doc
Corres. (RI)

APPENDIX C

LABORATORY ANALYSIS DATA

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

SS-S1 @ 1'

Total Metals

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-06
Date Sampled: 9/5/02
Percent Solid: 93

ESS Project ID: 02090063
ESS Sample ID: 02090063-06
Units: mg/Kg dry weight
GFAA Information: 5/1.57/100
ICP2 Information: 1/1.57/100
Mercury Information: 2/0.61/40

Test Name	Result	MRL	Date Analyzed	Analyst	Method
Antimony	ND	6.85	09/06/02	ML	6010
Arsenic	**2.19 ***	0.685	09/10/02	SVD	7060
Beryllium	**0.158**	0.068	09/06/02	ML	6010
Cadmium	ND	0.685	09/06/02	ML	6010
Chromium	**25.1**	1.37	09/06/02	ML	6010
Copper	**8.71**	1.37	09/06/02	ML	6010
Lead	**14**	6.85	09/06/02	ML	6010
Mercury	ND	0.0705	09/07/02	SVD	7471
Nickel	**20**	1.37	09/06/02	ML	6010
Selenium	ND	6.85	09/06/02	ML	6010
Silver	ND	0.685	09/06/02	ML	6010
Thallium	ND**	3.42	09/09/02	SVD	7841
Zinc	**22.7**	3.42	09/06/02	ML	6010

* = Result and MRL based on 5x dilution.
** = Result and MRL based on 10x dilution.
MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: SVD Date: 9/13/02

HJL

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ESS Laboratory

Division of Thielsch Engineering, Inc.

SS-52 @ 1'

CERTIFICATE OF ANALYSIS

Total Metals

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-07
Date Sampled: 9/5/02
Percent Solid: 90

ESS Project ID: 02090063
ESS Sample ID: 02090063-07
Units: mg/Kg dry weight
GFAA Information: 5/1.54/100
ICP2 Information: 1/1.54/100
Mercury Information: 2/0.6/40

Test Name	Result	MRL	Date Analyzed	Analyst	Method
Antimony	ND	7.22	09/06/02	ML	6010
Arsenic	**2.27** *	0.722	09/10/02	SVD	7060
Beryllium	**0.245**	0.072	09/06/02	ML	6010
Cadmium	ND	0.722	09/06/02	ML	6010
Chromium	**19.5**	1.44	09/06/02	ML	6010
Copper	**43.3**	1.44	09/06/02	ML	6010
Lead	**66**	7.22	09/06/02	ML	6010
Mercury	ND	0.0741	09/07/02	SVD	7471
Nickel	**20.7**	1.44	09/06/02	ML	6010
Selenium	ND	7.22	09/06/02	ML	6010
Silver	ND	0.722	09/06/02	ML	6010
Thallium	ND**	3.61	09/09/02	SVD	7841
Zinc	**83**	3.61	09/06/02	ML	6010

* = Result and MRL based on 5x dilution.
** = Result and MRL based on 10x dilution.
MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: SVD Date: 9/13/02

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CERTIFICATE OF ANALYSIS

TP-38 @ 2'

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-01
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/9/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-01
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 91
Sample Amount: 30 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	101	27.5

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/10/02

MDP

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ESS Laboratory

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TP-40 @ 3'

CERTIFICATE OF ANALYSIS

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-02
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/7/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-02
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 94
Sample Amount: 30 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	73	26.6

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/10/02

MDP

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CERTIFICATE OF ANALYSIS

TP-41 @ 10'

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-03
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/7/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-03
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 89
Sample Amount: 29.9 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	513	141

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/16/02

MDP

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS TP-42 @ 16.5'

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-04
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/7/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-04
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 30.1 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	ND	26

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/10/02

MDP

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS TP-42 @ 16.5' (duplicate)

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-05
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/7/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-05
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 30.2 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	ND	25.9

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/10/02

MDP

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An Equal Opportunity Employer

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

TP 44 @ 3.5'

8100M Total Petroleum Hydrocarbons

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-08
Date Sampled: 9/5/02
Analyst: EP
Date Analyzed: 9/9/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-08
Units: mg/Kg dry weight
Dilution: 1
Percent Solid: 88
Sample Amount: 30.4 g

Test Name	Result	MRL
Total Petroleum Hydrocarbons	**289**	28

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: EP Date: 9/10/02

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CERTIFICATE OF ANALYSIS

TP-38 @ 2'

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-01
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-01
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 91
Sample Amount: 16.7 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	49
1,1,1-Trichloroethane	ND	49
1,1,2,2-Tetrachloroethane	ND	49
1,1,2-Trichloroethane	ND	49
1,1-Dichloroethane	ND	49
1,1-Dichloroethene	ND	49
1,1-Dichloropropene	ND	49
1,2,3-Trichlorobenzene	ND	49
1,2,3-Trichloropropane	ND	49
1,2,4-Trichlorobenzene	ND	49
1,2,4-Trimethylbenzene	ND	99
1,2-Dibromo-3-Chloropropane	ND	49
1,2-Dibromoethane	ND	49.3
1,2-Dichlorobenzene	ND	49.3
1,2-Dichloroethane	ND	49
1,2-Dichloropropane	ND	49
1,3,5-Trimethylbenzene	ND	49
1,3-Dichlorobenzene	ND	49
1,3-Dichloropropane	ND	49
1,4-Dichlorobenzene	ND	49
1-Chlorohexane	ND	49
2,2-Dichloropropane	ND	1230
2-Butanone	ND	49
2-Chlorotoluene	ND	494
2-Hexanone	ND	49
4-Chlorotoluene	ND	49
4-Isopropyltoluene	ND	494
4-Methyl-2-Pentanone	ND	1230
Acetone	ND	49
Benzene	ND	49
Bromobenzene	ND	49
Bromochloromethane	ND	49
Bromodichloromethane	ND	49
Bromoform	ND	247
Bromomethane	ND	49
Carbon Disulfide	ND	49
Carbon Tetrachloride	ND	49

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Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-01

ESS Project ID: 02090063
ESS Sample ID: 02090063-01

Test Name	Result	MRL
Chlorobenzene	ND	49
Chloroethane	ND	99
Chloroform	ND	49
Chloromethane	ND	99
cis-1,2-Dichloroethene	ND	49
cis-1,3-Dichloropropene	ND	49
Dibromochloromethane	ND	49
Dibromomethane	ND	49
Dichlorodifluoromethane	ND	99
Ethylbenzene	ND	49
Hexachlorobutadiene	ND	49
Isopropylbenzene	ND	49
Methyl tert-Butyl Ether	ND	49
Methylene Chloride	ND	247
n-Butylbenzene	ND	49
n-Propylbenzene	ND	49
Naphthalene	ND	49
sec-Butylbenzene	ND	49
Styrene	ND	49
tert-Butylbenzene	ND	49
Tetrachloroethene	ND	247
Tetrahydrofuran	ND	49
Toluene	ND	49
trans-1,2-Dichloroethene	ND	49
trans-1,3-Dichloropropene	ND	49
Trichloroethene	ND	99
Trichlorofluoromethane	ND	494
Vinyl Acetate	ND	99
Vinyl Chloride	ND	99
Xylenes (Total)	ND	247

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ Date: 9/16/02

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CERTIFICATE OF ANALYSIS

TP-40 @ 3'

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-02
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-02
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 94
Sample Amount: 19.9 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	40
1,1,1-Trichloroethane	ND	40
1,1,2,2-Tetrachloroethane	ND	40
1,1,2-Trichloroethane	ND	40
1,1-Dichloroethane	ND	40
1,1-Dichloroethene	ND	40
1,1-Dichloropropene	ND	40
1,2,3-Trichlorobenzene	ND	40
1,2,3-Trichloropropane	ND	40
1,2,4-Trichlorobenzene	ND	40
1,2,4-Trimethylbenzene	ND	80
1,2-Dibromo-3-Chloropropane	ND	40
1,2-Dibromoethane	ND	40.1
1,2-Dichlorobenzene	ND	40.1
1,2-Dichloroethane	ND	40
1,2-Dichloropropane	ND	40
1,3,5-Trimethylbenzene	ND	40
1,3-Dichlorobenzene	ND	40
1,3-Dichloropropane	ND	40
1,4-Dichlorobenzene	ND	40
1-Chlorohexane	ND	40
2,2-Dichloropropane	ND	1000
2-Butanone	ND	40
2-Chlorotoluene	ND	401
2-Hexanone	ND	40
4-Chlorotoluene	ND	40
4-Isopropyltoluene	ND	401
4-Methyl-2-Pentanone	ND	1000
Acetone	ND	40
Benzene	ND	40
Bromobenzene	ND	40
Bromochloromethane	ND	40
Bromodichloromethane	ND	40
Bromoform	ND	200
Bromomethane	ND	40
Carbon Disulfide	ND	40
Carbon Tetrachloride	ND	MDP

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-02

ESS Project ID: 02090063
ESS Sample ID: 02090063-02

Test Name	Result	MRL
Chlorobenzene	ND	40
Chloroethane	ND	80
Chloroform	ND	40
Chloromethane	ND	80
cis-1,2-Dichloroethene	ND	40
cis-1,3-Dichloropropene	ND	40
Dibromochloromethane	ND	40
Dibromomethane	ND	40
Dichlorodifluoromethane	ND	80
Ethylbenzene	ND	40
Hexachlorobutadiene	ND	40
Isopropylbenzene	ND	40
Methyl tert-Butyl Ether	ND	40
Methylene Chloride	ND	200
n-Butylbenzene	ND	40
n-Propylbenzene	ND	40
Naphthalene	ND	40
sec-Butylbenzene	ND	40
Styrene	ND	40
tert-Butylbenzene	ND	40
Tetrachloroethene	ND	40
Tetrahydrofuran	ND	200
Toluene	ND	40
trans-1,2-Dichloroethene	ND	40
trans-1,3-Dichloropropene	ND	40
Trichloroethene	91	80
Trichlorofluoromethane	ND	401
Vinyl Acetate	ND	80
Vinyl Chloride	ND	80
Xylenes (Total)	ND	80

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: [signature] Date: 9/16/02

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CERTIFICATE OF ANALYSIS

TP-41 @ 10'

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-03
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-03
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 89
Sample Amount: 21.2 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	40
1,1,1-Trichloroethane	ND	40
1,1,2,2-Tetrachloroethane	ND	40
1,1,2-Trichloroethane	ND	40
1,1-Dichloroethane	ND	40
1,1-Dichloroethene	ND	40
1,1-Dichloropropene	ND	40
1,2,3-Trichlorobenzene	ND	40
1,2,3-Trichloropropane	ND	40
1,2,4-Trichlorobenzene	ND	40
1,2,4-Trimethylbenzene	ND	79
1,2-Dibromo-3-Chloropropane	ND	40
1,2-Dibromoethane	ND	39.8
1,2-Dichlorobenzene	ND	39.8
1,2-Dichloroethane	ND	40
1,2-Dichloropropane	ND	40
1,3,5-Trimethylbenzene	ND	40
1,3-Dichlorobenzene	ND	40
1,3-Dichloropropane	ND	40
1,4-Dichlorobenzene	ND	40
1-Chlorohexane	ND	40
2,2-Dichloropropane	ND	994
2-Butanone	ND	40
2-Chlorotoluene	ND	397
2-Hexanone	ND	40
4-Chlorotoluene	ND	40
4-Isopropyltoluene	ND	397
4-Methyl-2-Pentanone	ND	994
Acetone	ND	40
Benzene	ND	40
Bromobenzene	ND	40
Bromochloromethane	ND	40
Bromodichloromethane	ND	40
Bromoform	ND	40
Bromomethane	ND	199
Carbon Disulfide	ND	40
Carbon Tetrachloride	ND	40

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Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-03

ESS Project ID: 02090063
ESS Sample ID: 02090063-03

Test Name	Result	MRL
Chlorobenzene	ND	40
Chloroethane	ND	79
Chloroform	ND	40
Chloromethane	ND	79
cis-1,2-Dichloroethene	ND	40
cis-1,3-Dichloropropene	ND	40
Dibromochloromethane	ND	40
Dibromomethane	ND	40
Dichlorodifluoromethane	ND	79
Ethylbenzene	ND	40
Hexachlorobutadiene	ND	40
Isopropylbenzene	ND	40
Methyl tert-Butyl Ether	ND	40
Methylene Chloride	ND	199
n-Butylbenzene	ND	40
n-Propylbenzene	ND	40
Naphthalene	**1700**	40
sec-Butylbenzene	ND	40
Styrene	ND	40
tert-Butylbenzene	ND	40
Tetrachloroethene	**78**	199
Tetrahydrofuran	ND	40
Toluene	ND	40
trans-1,2-Dichloroethene	ND	40
trans-1,3-Dichloropropene	ND	40
Trichloroethene	ND	79
Trichlorofluoromethane	ND	397
Vinyl Acetate	ND	79
Vinyl Chloride	ND	79
Xylenes (Total)	ND	79

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ Date: 9/16/02

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TP-42 @ 16.5'

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-04
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-04
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 23.8 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	33
1,1,1-Trichloroethane	ND	33
1,1,2,2-Tetrachloroethane	ND	33
1,1,2-Trichloroethane	ND	33
1,1-Dichloroethane	ND	33
1,1-Dichloroethene	ND	33
1,1-Dichloropropene	ND	33
1,2,3-Trichlorobenzene	ND	33
1,2,3-Trichloropropane	ND	33
1,2,4-Trichlorobenzene	ND	33
1,2,4-Trimethylbenzene	ND	66
1,2-Dibromo-3-Chloropropane	ND	33
1,2-Dibromoethane	ND	32.8
1,2-Dichlorobenzene	ND	32.8
1,2-Dichloroethane	ND	33
1,2-Dichloropropane	ND	33
1,3,5-Trimethylbenzene	ND	33
1,3-Dichlorobenzene	ND	33
1,3-Dichloropropane	ND	33
1,4-Dichlorobenzene	ND	33
1-Chlorohexane	ND	33
2,2-Dichloropropane	ND	821
2-Butanone	ND	33
2-Chlorotoluene	ND	328
2-Hexanone	ND	33
4-Chlorotoluene	ND	33
4-Isopropyltoluene	ND	328
4-Methyl-2-Pentanone	ND	821
Acetone	ND	33
Benzene	ND	33
Bromobenzene	ND	33
Bromochloromethane	ND	33
Bromodichloromethane	ND	33
Bromoform	ND	164
Bromomethane	ND	33
Carbon Disulfide	ND	33
Carbon Tetrachloride	ND	

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-04

ESS Project ID: 02090063
ESS Sample ID: 02090063-04

Test Name	Result	MRL
Chlorobenzene	ND	33
Chloroethane	ND	66
Chloroform	ND	33
Chloromethane	ND	66
cis-1,2-Dichlbroethene	ND	33
cis-1,3-Dichlbropropene	ND	33
Dibromochlcromethane	ND	33
Dibromomethane	ND	33
Dichlorodifluoromethane	ND	66
Ethylbenzene	ND	33
Hexachlorobutadiene	ND	33
Isopropylbenzene	ND	33
Methyl tert-Butyl Ether	ND	33
Methylene Chloride	ND	164
n-Butylbenzene	ND	33
n-Propylbenzene	ND	33
Naphthalene	ND	33
sec-Butylbenzene	ND	33
Styrene	ND	33
tert-Butylbenzene	ND	33
Tetrachloroethene	ND	33
Tetrahydrofuran	ND	164
Toluene	ND	33
trans-1,2-Dichloroethene	ND	33
trans-1,3-Dichloropropene	ND	33
Trichloroethene	ND	33
Trichlorofluoromethane	ND	66
Vinyl Acetate	ND	328
Vinyl Chloride	ND	66
Xylenes (Total)	ND	66

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ Date: 9/16/02

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CERTIFICATE OF ANALYSIS

TP-42 @ 16.5' (duplicat

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-05
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-05
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 22.8 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	34
1,1,1-Trichloroethane	ND	34
1,1,2,2-Tetrachloroethane	ND	34
1,1,2-Trichloroethane	ND	34
1,1-Dichloroethane	ND	34
1,1-Dichloroethene	ND	34
1,1-Dichloropropene	ND	34
1,2,3-Trichlorobenzene	ND	34
1,2,3-Trichloropropane	ND	34
1,2,4-Trichlorobenzene	ND	34
1,2,4-Trimethylbenzene	ND	34
1,2-Dibromo-3-Chloropropane	ND	69
1,2-Dibromoethane	ND	34
1,2-Dichlorobenzene	ND	34.3
1,2-Dichloroethane	ND	34.3
1,2-Dichloropropane	ND	34
1,3,5-Trimethylbenzene	ND	34
1,3-Dichlorobenzene	ND	34
1,3-Dichloropropane	ND	34
1,4-Dichlorobenzene	ND	34
1-Chlorohexane	ND	34
2,2-Dichloropropane	ND	34
2-Butanone	ND	857
2-Chlorotoluene	ND	34
2-Hexanone	ND	343
4-Chlorotoluene	ND	34
4-Isopropyltoluene	ND	34
4-Methyl-2-Pentanone	ND	343
Acetone	ND	857
Benzene	ND	34
Bromobenzene	ND	34
Bromochloromethane	ND	34
Bromodichloromethane	ND	34
Bromoform	ND	34
Bromomethane	ND	171
Carbon Disulfide	ND	34
Carbon Tetrachloride	ND	34

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-05

ESS Project ID: 02090063
ESS Sample ID: 02090063-05

Test Name	Result	MRL
Chlorobenzene	ND	34
Chloroethane	ND	69
Chloroform	ND	34
Chloromethane	ND	69
cis-1,2-Dichloroethene	ND	34
cis-1,3-Dichloropropene	ND	34
Dibromochloromethane	ND	34
Dibromomethane	ND	34
Dichlorodifluoromethane	ND	69
Ethylbenzene	ND	34
Hexachlorobutadiene	ND	34
Isopropylbenzene	ND	34
Methyl tert-Butyl Ether	ND	34
Methylene Chloride	ND	171
n-Butylbenzene	ND	34
n-Propylbenzene	ND	34
Naphthalene	ND	34
sec-Butylbenzene	ND	34
Styrene	ND	34
tert-Butylbenzene	ND	34
Tetrachloroethene	ND	34
Tetrahydrofuran	ND	171
Toluene	ND	34
trans-1,2-Dichloroethene	ND	34
trans-1,3-Dichloropropene	ND	34
Trichloroethene	ND	34
Trichlorofluoromethane	ND	69
Vinyl Acetate	ND	343
Vinyl Chloride	ND	69
Xylenes (Total)	ND	69

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ Date: 9/16/02

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CERTIFICATE OF ANALYSIS

TP-44 @ 3.5'

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-08
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-08
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 88
Sample Amount: 17.3 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	49
1,1,1-Trichloroethane	ND	49
1,1,2,2-Tetrachloroethane	ND	49
1,1,2-Trichloroethane	ND	49
1,1-Dichlorocthane	ND	49
1,1-Dichloroethene	ND	49
1,1-Dichloropropene	ND	49
1,2,3-Trichlorobenzene	ND	49
1,2,3-Trichloropropane	ND	49
1,2,4-Trichlorobenzene	ND	49
1,2,4-Trimethylbenzene	ND	49
1,2-Dibromo-3-Chloropropane	ND	99
1,2-Dibromoethane	ND	49
1,2-Dichlorobenzene	**69.5**	49.3
1,2-Dichloroethane	ND	49.3
1,2-Dichloropropane	ND	49
1,3,5-Trimethylbenzene	ND	49
1,3-Dichlorobenzene	ND	49
1,3-Dichloropropane	ND	49
1,4-Dichlorobenzene	ND	49
1-Chlorohexane	ND	49
2,2-Dichloropropane	ND	1230
2-Butanone	ND	49
2-Chlorotoluene	ND	493
2-Hexanone	ND	49
4-Chlorotoluene	ND	49
4-Isopropyltoluene	ND	493
4-Methyl-2-Pentanone	ND	1230
Acetone	ND	49
Benzene	ND	49
Bromobenzene	ND	49
Bromochloromethane	ND	49
Bromodichloromethane	ND	49
Bromoform	ND	246
Bromomethane	ND	49
Carbon Disulfide	ND	49
Carbon Tetrachloride	ND	

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-08

ESS Project ID: 02090063
ESS Sample ID: 02090063-08

Test Name	Result	MRL
Chlorobenzene	ND	49
Chloroethane	ND	99
Chloroform	ND	49
Chloromethane	ND	99
cis-1,2-Dichloroethene	ND	49
cis-1,3-Dichloropropene	ND	49
Dibromochloromethane	ND	49
Dibromomethane	ND	49
Dichlorodifluoromethane	ND	99
Ethylbenzene	ND	49
Hexachlorobutadiene	ND	49
Isopropylbenzene	ND	49
Methyl tert-Butyl Ether	ND	49
Methylene Chloride	ND	246
n-Butylbenzene	ND	49
n-Propylbenzene	ND	49
Naphthalene	ND	49
sec-Butylbenzene	ND	49
Styrene	ND	49
tert-Butylbenzene	ND	49
Tetrachloroethene	**455**	49
Tetrahydrofuran	ND	246
Toluene	ND	49
trans-1,2-Dichloroethene	ND	49
trans-1,3-Dichloropropene	ND	49
Trichloroethene	**89**	49
Trichlorofluoromethane	ND	99
Vinyl Acetate	ND	493
Vinyl Chloride	ND	99
Xylenes (Total)	ND	99

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ Date: 9/16/02

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CERTIFICATE OF ANALYSIS

Trip Blank

EPA Methods 5035/8260B
Methanol Extraction

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-09 Trip Blank
Date Sampled: 9/5/02
Analyst: JL
Date Analyzed: 9/10/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-09
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 100
Sample Amount: 15 g

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	50
1,1,1-Trichloroethane	ND	50
1,1,2,2-Tetrachloroethane	ND	50
1,1,2-Trichloroethane	ND	50
1,1-Dichloroethane	ND	50
1,1-Dichloroethene	ND	50
1,1-Dichloropropene	ND	50
1,2,3-Trichlorobenzene	ND	50
1,2,3-Trichloropropane	ND	50
1,2,4-Trichlorobenzene	ND	50
1,2,4-Trimethylbenzene	ND	50
1,2-Dibromo-3-Chloropropane	ND	100
1,2-Dibromoethane	ND	50
1,2-Dichlorobenzene	ND	50
1,2-Dichloroethane	ND	50
1,2-Dichloropropane	ND	50
1,3,5-Trimethylbenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,3-Dichloropropane	ND	50
1,4-Dichlorobenzene	ND	50
1-Chlorohexane	ND	50
2,2-Dichloropropane	ND	50
2-Butanone	ND	1250
2-Chlorotoluene	ND	50
2-Hexanone	ND	500
4-Chlorotoluene	ND	50
4-Isopropyltoluene	ND	50
4-Methyl-2-Pentanone	ND	500
Acetone	ND	1250
Benzene	ND	50
Bromobenzene	ND	50
Bromochloromethane	ND	50
Bromodichloromethane	ND	50
Bromoform	ND	50
Bromomethane	ND	250
Carbon Disulfide	ND	50
Carbon Tetrachloride	ND	50

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-09 Trip Blank

ESS Project ID: 02090063
ESS Sample ID: 02090063-09

Test Name	Result	MRL
Chlorobenzene	ND	50
Chloroethane	ND	100
Chloroform	ND	50
Chloromethane	ND	100
cis-1,2-Dichlbroethene	ND	50
cis-1,3-Dichlpropropene	ND	50
Dibromochloromethane	ND	50
Dibromomethane	ND	50
Dichlorodifluoromethane	ND	100
Ethylbenzene	ND	50
Hexachlorobutadiene	ND	50
Isopropylbenzene	ND	50
Methyl tert-Butyl Ether	ND	50
Methylene Chloride	ND	250
n-Butylbenzene	ND	50
n-Propylbenzene	ND	50
Naphthalene	ND	50
sec-Butylbenzene	ND	50
Styrene	ND	50
tert-Butylbenzene	ND	50
Tetrachloroethene	ND	250
Tetrahydrofuran	ND	50
Toluene	ND	50
trans-1,2-Dichloroethene	ND	50
trans-1,3-Dichloropropene	ND	50
Trichloroethene	ND	100
Trichlorofluoromethane	ND	500
Vinyl Acetate	ND	100
Vinyl Chloride	ND	100
Xylenes (Total)	ND	100

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: [signature] Date: 9/16/02

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ESS Laboratory

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CERTIFICATE OF ANALYSIS

TP-38 @ 2'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-01
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-01
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 91
Sample Amount: 29.1 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	378
1,2-Dichlorobenzene	ND	378
1,3-Dichlorobenzene	ND	378
1,4-Dichlorobenzene	ND	378
2,4,5-Trichlorophenol	ND	378
2,4,6-Trichlorophenol	ND	378
2,4-Dichlorophenol	ND	1890
2,4-Dimethylphenol	ND	1890
2,4-Dinitrophenol	ND	1890
2,4-Dinitrotoluene	ND	378
2,6-Dinitrotoluene	ND	378
2-Chloronaphthalene	ND	378
2-Chlorophenol	ND	378
2-Methylnaphthalene	ND	378
2-Methylphenol	ND	378
2-Nitroaniline	ND	378
2-Nitrophenol	ND	378
3+4-Methylphenol	ND	378
3,3´-Dichlorobenzidine	ND	1890
3-Nitroaniline	ND	1890
4,6-Dinitro-2-Methylphenol	ND	1890
4-Bromophenyl-phenylether	ND	378
4-Chloro-3-Methylphenol	ND	378
4-Chloro-phenyl-phenyl ether	ND	378
4-Chloroaniline	ND	1890
4-Nitroaniline	ND	378
4-Nitrophenol	ND	1890
Acenaphthene	ND	378
Acenaphthylene	ND	378
Anthracene	**1120**	378
Benzo(a)anthracene	**2030**	378
Benzo(a)pyrene	**1860**	378
Benzo(b)fluoranthene	**1410**	378
Benzo(g,h,i)perylene	**1260**	378
Benzo(k)fluoranthene	**2170**	378
Benzoic Acid	ND	3780
Benzyl Alcohol	ND	378

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-01

ESS Project ID: 02090063
ESS Sample ID: 02090063-01

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	378
bis(2-Chloroethyl)ether	ND	378
bis(2-chloroisopropyl)Ether	ND	378
bis(2-Ethylhexyl)phthalate	**409**	378
Butylbenzylphthalate	ND	378
Chrysene	**2040**	378
Di-n-butylphthalate	ND	378
Di-n-octylphthalate	ND	378
Dibenzo(a,h)Anthracene	ND	378
Dibenzofuran	ND	378
Diethylphthalate	ND	378
Dimethylphthalate	ND	378
Fluoranthene	**4040**	378
Fluorene	**444**	378
Hexachlorobenzene	ND	378
Hexachlorobutadiene	ND	378
Hexachlorocyclopentadiene	ND	1890
Hexachloroethane	ND	378
Indeno(1,2,3-cd)Pyrene	**839**	378
Isophorone	ND	378
N-Nitroso-Di-n-Propylamine	ND	378
N-Nitrosodimethylamine	ND	378
N-nitrosodiphenylamine	ND	378
Naphthalene	ND	378
Nitrobenzene	ND	378
Pentachlorophenol	ND	1890
Phenanthrene	**4270**	378
Phenol	ND	378
Pyrene	**4880**	378

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CB

Date: 9/13/02

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CERTIFICATE OF ANALYSIS

TP.40 @ 3'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-02
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/11/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-02
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 94
Sample Amount: 29.2 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	364
1,2-Dichlorobenzene	ND	364
1,3-Dichlorobenzene	ND	364
1,4-Dichlorobenzene	ND	364
2,4,5-Trichlorophenol	ND	364
2,4,6-Trichlorophenol	ND	364
2,4-Dichlorophenol	ND	1820
2,4-Dimethylphenol	ND	1820
2,4-Dinitrophenol	ND	1820
2,4-Dinitrotoluene	ND	364
2,6-Dinitrotoluene	ND	364
2-Chloronaphthalene	ND	364
2-Chlorophenol	ND	364
2-Methylnaphthalene	ND	364
2-Methylphenol	ND	364
2-Nitroaniline	ND	364
2-Nitrophenol	ND	364
3+4-Methylphenol	ND	1820
3,3'-Dichlorobenzidine	ND	1820
3-Nitroaniline	ND	1820
4,6-Dinitro-2-Methylphenol	ND	364
4-Bromophenyl-phenylether	ND	364
4-Chloro-3-Methylphenol	ND	364
4-Chloro-phenyl-phenyl ether	ND	1820
4-Chloroaniline	ND	364
4-Nitroaniline	ND	1820
4-Nitrophenol	ND	364
Acenaphthene	ND	364
Acenaphthylene	ND	364
Anthracene	**947**	364
Benzo(a)anthracene	**988**	364
Benzo(a)pyrene	**786**	364
Benzo(b)fluoranthene	ND	364
Benzo(g,h,i)perylene	**1030**	364
Benzo(k)fluoranthene	ND	3640
Benzoic Acid	ND	364
Benzyl Alcohol		

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-02

ESS Project ID: 02090063
ESS Sample ID: 02090063-02

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	364
bis(2-Chloroethyl)ether	ND	364
bis(2-chloroisopropyl)Ether	ND	364
bis(2-Ethylhexyl)phthalate	ND	364
Butylbenzylphthalate	ND	364
Chrysene	**1040**	364
Di-n-butylphthalate	ND	364
Di-n-octylphthalate	ND	364
Dibenzo(a,h)Anthracene	ND	364
Dibenzofuran	ND	364
Diethylphthalate	ND	364
Dimethylphthalate	ND	364
Fluoranthene	**1940**	364
Fluorene	ND	364
Hexachlorobenzene	ND	364
Hexachlorobutadiene	ND	364
Hexachlorocyclopentadiene	ND	1820
Hexachloroethane	ND	364
Indeno(1,2,3-cd)Pyrene	ND	364
Isophorone	ND	364
N-Nitroso-Di-n-Propylamine	ND	364
N-Nitrosodimethylamine	ND	364
N-nitrosodiphenylamine	ND	364
Naphthalene	ND	364
Nitrobenzene	ND	364
Pentachlorophenol	ND	1820
Phenanthrene	**1610**	364
Phenol	ND	364
Pyrene	**2940**	364

MRL = Method Reporting Limit. ND = Not Detected above MRL.

Approved By: CLB Date: 9/13/02

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CERTIFICATE OF ANALYSIS

TP-41 @ 10'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-03
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-03
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 89
Sample Amount: 29.5 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	1900
1,2-Dichlorobenzene	ND	1900
1,3-Dichlorobenzene	ND	1900
1,4-Dichlorobenzene	ND	1900
2,4,5-Trichlorophenol	ND	1900
2,4,6-Trichlorophenol	ND	1900
2,4-Dichlorophenol	ND	9520
2,4-Dimethylphenol	ND	9520
2,4-Dinitrophenol	ND	9520
2,4-Dinitrotoluene	ND	1900
2,6-Dinitrotoluene	ND	1900
2-Chloronaphthalene	ND	1900
2-Chlorophenol	ND	1900
2-Methylnaphthalene	ND	1900
2-Methylphenol	ND	1900
2-Nitroaniline	ND	1900
2-Nitrophenol	ND	1900
3+4-Methylphenol	ND	9520
3,3'-Dichlorobenzidine	ND	9520
3-Nitroaniline	ND	9520
4,6-Dinitro-2-Methylphenol	ND	1900
4-Bromophenyl-phenylether	ND	1900
4-Chloro-3-Methylphenol	ND	1900
4-Chloro-phenyl-phenyl ether	ND	9520
4-Chloroaniline	ND	1900
4-Nitroaniline	ND	9520
4-Nitrophenol	**1940**	1900
Acenaphthene	ND	1900
Acenaphthylene	**6070**	1900
Anthracene	**15200**	1900
Benzo(a)anthracene	**13100**	1900
Benzo(a)pyrene	**9760**	1900
Benzo(b)fluoranthene	**8330**	1900
Benzo(g,h,i)perylene	**12900**	19000
Benzo(k)fluoranthene	ND	1900
Benzoic Acid	ND	
Benzyl Alcohol		

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-03

ESS Project ID: 02090063
ESS Sample ID: 02090063-03

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	1900
bis(2-Chloroethyl)ether	ND	1900
bis(2-chloroisopropyl)Ether	ND	1900
bis(2-Ethylhexyl)phthalate	ND	1900
Butylbenzylphthalate	ND	1900
Chrysene	**15900**	1900
Di-n-butylphthalate	ND	1900
Di-n-octylphthalate	ND	1900
Dibenzo(a,h)Anthracene	ND	1900
Dibenzofuran	ND	1900
Diethylphthalate	ND	1900
Dimethylphthalate	ND	1900
Fluoranthene	**23200**	1900
Fluorene	**3370**	1900
Hexachlorobenzene	ND	1900
Hexachlorobutadiene	ND	1900
Hexachlorocyclopentadiene	ND	9520
Hexachloroethane	ND	1900
Indeno(1,2,3-cd)Pyrene	**5470**	1900
Isophorone	ND	1900
N-Nitroso-Di-n-Propylamine	ND	1900
N-Nitrosodimethylamine	ND	1900
N-nitrosodiphenylamine	ND	1900
Naphthalene	**2170**	1900
Nitrobenzene	ND	1900
Pentachlorophenol	ND	9520
Phenanthrene	**24600**	1900
Phenol	ND	1900
Pyrene	**40200**	1900

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CB

Date: 9/13/02

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CERTIFICATE OF ANALYSIS

TP-42 @ 16.5'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-04
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/9/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-04
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 30.4 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	343
1,2-Dichlorobenzene	ND	343
1,3-Dichlorobenzene	ND	343
1,4-Dichlorobenzene	ND	343
2,4,5-Trichlorophenol	ND	343
2,4,6-Trichlorophenol	ND	343
2,4-Dichlorophenol	ND	1710
2,4-Dimethylphenol	ND	1710
2,4-Dinitrophenol	ND	1710
2,4-Dinitrotoluene	ND	343
2,6-Dinitrotoluene	ND	343
2-Chloronaphthalene	ND	343
2-Chlorophenol	ND	343
2-Methylnaphthalene	ND	343
2-Methylphenol	ND	343
2-Nitroaniline	ND	343
2-Nitrophenol	ND	343
3+4-Methylphenol	ND	343
3,3'-Dichlorobenzidine	ND	1710
3-Nitroaniline	ND	1710
4,6-Dinitro-2-Methylphenol	ND	1710
4-Bromophenyl-phenylether	ND	343
4-Chloro-3-Methylphenol	ND	343
4-Chloro-phenyl-phenyl ether	ND	343
4-Chloroaniline	ND	1710
4-Nitroaniline	ND	343
4-Nitrophenol	ND	1710
Acenaphthene	ND	343
Acenaphthylene	ND	343
Anthracene	ND	343
Benzo(a)anthracene	ND	343
Benzo(a)pyrene	ND	343
Benzo(b)fluoranthene	ND	343
Benzo(g,h,i)perylene	ND	343
Benzo(k)fluoranthene	ND	343
Benzoic Acid	ND	3430
Benzyl Alcohol	ND	343

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-04

ESS Project ID: 02090063
ESS Sample ID: 02090063-04

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	343
bis(2-Chloroethyl)ether	ND	343
bis(2-chloroisopropyl)Ether	ND	343
bis(2-Ethylhexyl)phthalate	ND	343
Butylbenzylphthalate	ND	343
Chrysene	ND	343
Di-n-butylphthalate	ND	343
Di-n-octylphthalate	ND	343
Dibenzo(a,h)Anthracene	ND	343
Dibenzofuran	ND	343
Diethylphthalate	ND	343
Dimethylphthalate	ND	343
Fluoranthene	ND	343
Fluorene	ND	343
Hexachlorobenzene	ND	343
Hexachlorobutadiene	ND	343
Hexachlorocyclopentadiene	ND	1710
Hexachloroethane	ND	343
Indeno(1,2,3-cd)Pyrene	ND	343
Isophorone	ND	343
N-Nitroso-Di-n-Propylamine	ND	343
N-Nitrosodimethylamine	ND	343
N-nitrosodiphenylamine	ND	343
Naphthalene	ND	343
Nitrobenzene	ND	343
Pentachlorophenol	ND	1710
Phenanthrene	ND	343
Phenol	ND	343
Pyrene	ND	343

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CB

Date: 9/13/02

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CERTIFICATE OF ANALYSIS

TP-42 @ 16.5' (duplicate)

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-05
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-05
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 96
Sample Amount: 29.2 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	357
1,2-Dichlorobenzene	ND	357
1,3-Dichlorobenzene	ND	357
1,4-Dichlorobenzene	ND	357
2,4,5-Trichlorophenol	ND	357
2,4,6-Trichlorophenol	ND	357
2,4-Dichlorophenol	ND	1780
2,4-Dimethylphenol	ND	1780
2,4-Dinitrophenol	ND	1780
2,4-Dinitrotoluene	ND	357
2,6-Dinitrotoluene	ND	357
2-Chloronaphthalene	ND	357
2-Chlorophenol	ND	357
2-Methylnaphthalene	ND	357
2-Methylphenol	ND	357
2-Nitroaniline	ND	357
2-Nitrophenol	ND	357
3+4-Methylphenol	ND	357
3,3´-Dichlorobenzidine	ND	1780
3-Nitroaniline	ND	1780
4,6-Dinitro-2-Methylphenol	ND	1780
4-Bromophenyl-phenylether	ND	357
4-Chloro-3-Methylphenol	ND	357
4-Chloro-phenyl-phenyl ether	ND	357
4-Chloroaniline	ND	1780
4-Nitroaniline	ND	357
4-Nitrophenol	ND	1780
Acenaphthene	ND	357
Acenaphthylene	ND	357
Anthracene	ND	357
Benzo(a)anthracene	ND	357
Benzo(a)pyrene	ND	357
Benzo(b)fluoranthene	ND	357
Benzo(g,h,i)perylene	ND	357
Benzo(k)fluoranthene	ND	357
Benzoic Acid	ND	3570
Benzyl Alcohol	ND	357

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CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-05

ESS Project ID: 02090063
ESS Sample ID: 02090063-05

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	357
bis(2-Chloroethyl)ether	ND	357
bis(2-chloroisopropyl)Ether	ND	357
bis(2-Ethylhexyl)phthalate	ND	357
Butylbenzylphthalate	ND	357
Chrysene	ND	357
Di-n-butylphthalate	ND	357
Di-n-octylphthalate	ND	357
Dibenzo(a,h)Anthracene	ND	357
Dibenzofuran	ND	357
Diethylphthalate	ND	357
Dimethylphthalate	ND	357
Fluoranthene	ND	357
Fluorene	ND	357
Hexachlorobenzene	ND	357
Hexachlorobutadiene	ND	357
Hexachlorocyclopentadiene	ND	1780
Hexachloroethane	ND	357
Indeno(1,2,3-cd)Pyrene	ND	357
Isophorone	ND	357
N-Nitroso-Di-n-Propylamine	ND	357
N-Nitrosodimethylamine	ND	357
N-nitrosodiphenylamine	ND	357
Naphthalene	ND	357
Nitrobenzene	ND	357
Pentachlorophenol	ND	1780
Phenanthrene	ND	357
Phenol	ND	357
Pyrene	ND	357

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CB

Date: 9/13/08

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CERTIFICATE OF ANALYSIS

SS-5 | @ 1'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-06
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-06
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 93
Sample Amount: 29.3 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	367
1,2-Dichlorobenzene	ND	367
1,3-Dichlorobenzene	ND	367
1,4-Dichlorobenzene	ND	367
2,4,5-Trichlorophenol	ND	367
2,4,6-Trichlorophenol	ND	367
2,4-Dichlorophenol	ND	1830
2,4-Dimethylphenol	ND	1830
2,4-Dinitrophenol	ND	1830
2,4-Dinitrotoluene	ND	367
2,6-Dinitrotoluene	ND	367
2-Chloronaphthalene	ND	367
2-Chlorophenol	ND	367
2-Methylnaphthalene	ND	367
2-Methylphenol	ND	367
2-Nitroaniline	ND	367
2-Nitrophenol	ND	367
3+4-Methylphenol	ND	367
3,3'-Dichlorobenzidine	ND	1830
3-Nitroaniline	ND	1830
4,6-Dinitro-2-Methylphenol	ND	1830
4-Bromophenyl-phenylether	ND	367
4-Chloro-3-Methylphenol	ND	367
4-Chloro-phenyl-phenyl ether	ND	367
4-Chloroaniline	ND	1830
4-Nitroaniline	ND	367
4-Nitrophenol	ND	1830
Acenaphthene	ND	367
Acenaphthylene	ND	367
Anthracene	ND	367
Benzo(a)anthracene	ND	367
Benzo(a)pyrene	ND	367
Benzo(b)fluoranthene	ND	367
Benzo(g,h,i)perylene	ND	367
Benzo(k)fluoranthene	ND	367
Benzoic Acid	ND	3670
Benzyl Alcohol	ND	367

MDP

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-06

ESS Project ID: 02090063
ESS Sample ID: 02090063-06

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	367
bis(2-Chloroethyl)ether	ND	367
bis(2-chloroisopropyl)Ether	ND	367
bis(2-Ethylhexyl)phthalate	ND	367
Butylbenzylphthalate	ND	367
Chrysene	ND	367
Di-n-butylphthalate	ND	367
Di-n-octylphthalate	ND	367
Dibenzo(a,h)Anthracene	ND	367
Dibenzofuran	ND	367
Diethylphthalate	ND	367
Dimethylphthalate	ND	367
Fluoranthene	ND	367
Fluorene	ND	367
Hexachlorobenzene	ND	367
Hexachlorobutadiene	ND	1830
Hexachlorocyclopentadiene	ND	367
Hexachloroethane	ND	367
Indeno(1,2,3-cd)Pyrene	ND	367
Isophorone	ND	367
N-Nitroso-Di-n-Propylamine	ND	367
N-Nitrosodimethylamine	ND	367
N-nitrosodiphenylamine	ND	367
Naphthalene	ND	367
Nitrobenzene	ND	1830
Pentachlorophenol	ND	367
Phenanthrene	ND	367
Phenol	ND	367
Pyrene	ND	367

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CLG Date: 9/13/02

MDP

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

SS-52e 1'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-07
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-07
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 90
Sample Amount: 29.9 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	372
1,2-Dichlorobenzene	ND	372
1,3-Dichlorobenzene	ND	372
1,4-Dichlorobenzene	ND	372
2,4,5-Trichlorophenol	ND	372
2,4,6-Trichlorophenol	ND	372
2,4-Dichlorophenol	ND	1860
2,4-Dimethylphenol	ND	1860
2,4-Dinitrophenol	ND	1860
2,4-Dinitrotoluene	ND	372
2,6-Dinitrotoluene	ND	372
2-Chloronaphthalene	ND	372
2-Chlorophenol	ND	372
2-Methylnaphthalene	ND	372
2-Methylphenol	ND	372
2-Nitroaniline	ND	372
2-Nitrophenol	ND	372
3+4-Methylphenol	ND	372
3,3'-Dichlorobenzidine	ND	1860
3-Nitroaniline	ND	1860
4,6-Dinitro-2-Methylphenol	ND	1860
4-Bromophenyl-phenylether	ND	372
4-Chloro-3-Methylphenol	ND	372
4-Chloro-phenyl-phenyl ether	ND	372
4-Chloroaniline	ND	1860
4-Nitroaniline	ND	372
4-Nitrophenol	ND	1860
Acenaphthene	ND	372
Acenaphthylene	ND	372
Anthracene	ND	372
Benzo(a)anthracene	ND	372
Benzo(a)pyrene	ND	372
Benzo(b)fluoranthene	**424**	372
Benzo(g,h,i)perylene	ND	372
Benzo(k)fluoranthene	ND	372
Benzoic Acid	ND	3720
Benzyl Alcohol	ND	372

MDP

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-07

ESS Project ID: 02090063
ESS Sample ID: 02090063-07

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	372
bis(2-Chloroethyl)ether	ND	372
bis(2-chloroisopropyl)Ether	ND	372
bis(2-Ethylhexyl)phthalate	ND	372
Butylbenzylphthalate	ND	372
Chrysene	ND	372
Di-n-butylphthalate	ND	372
Di-n-octylphthalate	ND	372
Dibenzo(a,h)Anthracene	ND	372
Dibenzofuran	ND	372
Diethylphthalate	ND	372
Dimethylphthalate	ND	372
Fluoranthene	**527**	372
Fluorene	ND	372
Hexachlorobenzene	ND	372
Hexachlorobutadiene	ND	1860
Hexachlorocyclopentadiene	ND	372
Hexachloroethane	ND	372
Indeno(1,2,3-cd)Pyrene	ND	372
Isophorone	ND	372
N-Nitroso-Di-n-Propylamine	ND	372
N-Nitrosodimethylamine	ND	372
N-nitrosodiphenylamine	ND	372
Naphthalene	ND	372
Nitrobenzene	ND	1860
Pentachlorophenol	ND	372
Phenanthrene	ND	372
Phenol	ND	372
Pyrene	**633**	372

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: MDP Date: 9/16/02

MDP

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

TP-44 @ 3.5'

EPA Method 8270C

Client Name: RIDEM
Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-08
Date Sampled: 9/5/02
Analyst: BML
Date Analyzed: 9/10/02
Date Prepped: 9/6/02

ESS Project ID: 02090063
ESS Sample ID: 02090063-08
Units: µg/Kg dry weight
Dilution: 1
Percent Solid: 88
Sample Amount: 29.7 g

Test Name	Result	MRL
1,2,4-Trichlorobenzene	ND	765
1,2-Dichlorobenzene	ND	765
1,3-Dichlorobenzene	ND	765
1,4-Dichlorobenzene	ND	765
2,4,5-Trichlorophenol	ND	765
2,4,6-Trichlorophenol	ND	765
2,4-Dichlorophenol	ND	3830
2,4-Dimethylphenol	ND	3830
2,4-Dinitrophenol	ND	3830
2,4-Dinitrotoluene	ND	765
2,6-Dinitrotoluene	ND	765
2-Chloronaphthalene	ND	765
2-Chlorophenol	ND	765
2-Methylnaphthalene	ND	765
2-Methylphenol	ND	765
2-Nitroaniline	ND	765
2-Nitrophenol	ND	765
3+4-Methylphenol	ND	3830
3,3'-Dichlorobenzidine	ND	3830
3-Nitroaniline	ND	3830
4,6-Dinitro-2-Methylphenol	ND	765
4-Bromophenyl-phenylether	ND	765
4-Chloro-3-Methylphenol	ND	765
4-Chloro-phenyl-phenyl ether	ND	3830
4-Chloroaniline	ND	765
4-Nitroaniline	ND	3830
4-Nitrophenol	ND	765
Acenaphthene	ND	765
Acenaphthylene	ND	765
Anthracene	**1220**	765
Benzo(a)anthracene	**1390**	765
Benzo(a)pyrene	**1550**	765
Benzo(b)fluoranthene	**918**	765
Benzo(g,h,i)perylene	**1170**	765
Benzo(k)fluoranthene	ND	7650
Benzoic Acid	ND	765
Benzyl Alcohol		

MDP

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: RIDEM Turner Dance
Client Sample ID: 601020905-08

ESS Project ID: 02090063
ESS Sample ID: 02090063-08

Test Name	Result	MRL
bis(2-Chloroethoxy)methane	ND	765
bis(2-Chloroethyl)ether	ND	765
bis(2-chloroisopropyl)Ether	ND	765
bis(2-Ethylhexyl)phthalate	ND	765
Butylbenzylphthalate	ND	765
Chrysene	**1560**	765
Di-n-butylphthalate	ND	765
Di-n-octylphthalate	ND	765
Dibenzo(a,h)Anthracene	ND	765
Dibenzofuran	ND	765
Diethylphthalate	ND	765
Dimethylphthalate	ND	765
Fluoranthene	**1610**	765
Fluorene	ND	765
Hexachlorobenzene	ND	765
Hexachlorobutadiene	ND	765
Hexachlorocyclopentadiene	ND	3830
Hexachloroethane	ND	765
Indeno(1,2,3-cd)Pyrene	ND	765
Isophorone	ND	765
N-Nitroso-Di-n-Propylamine	ND	765
N-Nitrosodimethylamine	ND	765
N-nitrosodiphenylamine	ND	765
Naphthalene	ND	765
Nitrobenzene	ND	765
Pentachlorophenol	ND	3830
Phenanthrene	**1170**	765
Phenol	ND	765
Pyrene	**4640**	765

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: CLB Date: 9/13/02

MDP

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

Fuss & O'Neill Inc.
consulting engineers
Environmental Field Services

CHAIN-OF-CUSTODY RECORD № 050382

FUSS & O'NEILL, INC.
146 HARTFORD ROAD
MANCHESTER, CT 06040
(860) 646-2469

C020063

9/16/2002 15:01 FAX 4014614486 ESS LABORATORY 010/011

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
RIDEM - Turner Dance	Providence, RI	19964454A50	ESS

REPORT TO: ~~Patrick Dowling, F+O, Frd. RI~~
INVOICE TO: Frank Gally, RIDEM, OWM
P. O. #: (Invoice + Report to Frank Gally)

Source Codes: MW=Monitor Well; RO=Run Off; T=Treatment Facility; X=Other, Specify; B=Bottom Sediment; O=Outfall; S=Soil; W=Well; L=Lake/Pond/Ocean; PW=Potable Water; SG=Sludge; LF=Landfill; R=River/Stream; ST=Septic Tank

ITEM NUMBER	SAMPLE NUMBER	SOURCE CODE	CONTAINER NO.	CONTAINER TYPE	CONTAINER SIZE	CONTAINER PRESERV.	ANALYSIS REQUIRED	COMMENTS	TRANSFER NUMBER & CHECK 1	2	3	4
11	601020905-01	S	2	6	8oz	I	SVOCs (8270), TPH (8100M)		✓	✓	✓	
12	↓		1	V	40ml	X/I	VOCs (8260), ~~TPH 8100M~~		✓	✓	✓	
23	-02		2	6	8oz	I	SVOCs (8270), TPH 8100M		✓	✓	✓	
24	↓		1	V	40ml	X/I	VOCs (8260), ~~TPH 810~~		✓	✓	✓	
35	-03		2	6	8oz	I	SVOCs (8270), TPH (8100M)		✓	✓	✓	
36	↓		1	V	40ml	X/I	VOCs (8260), ~~TPH~~		✓	✓	✓	
47	-04		2	6	8oz	I	SVOCs (8270), TPH (8100M)		✓	✓	✓	
48	↓		1	V	40ml	X/I	VOCs (8260), ~~TPH~~		✓	✓	✓	
59	-05		2	6	8oz	I	SVOCs (8270), TPH (8100M)		✓	✓	✓	
510	↓		1	V	40ml	X/I	VOCs (8260), ~~TPH~~		✓	✓	✓	
61	-06		1	6	8oz	I	PP 13 metals, SVOCs		✓	✓	✓	
712	-07		1	6	8oz	I	PP 13 metals, SVOCs		✓	✓	✓	

Container Code: P=Plastic; V=VOA Vial; C=Cube; G=Glass; A=Amber Glass; T=Teflon Lid; B=Bacteria Bottle; H=Hydrochloric Acid [HCl]; S=Sodium Hydroxide [NaOH]; T=Sodium Thiosulfate [$Na_2S_2O_3$]
Preservative Code: I=Iced; F=Filtered; N=Nitric Acid [HNO_3]; B=Sodium Bisulfate [$NaHSO_4$]; O=Sulfuric Acid [H_2SO_4]; A=Ascorbic Acid [$C_6H_8O_6$]; X=Other, Specify Methanol

Sampler's Signature	Affiliation	Date	Time
	F+O	9/5/02	1700

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	1-12		F+O Fridge	9/05/02	1800
2	1-12	F+O Fridge		9/06/02	1215
3	1-12			9/06/02	1508
4				9/6/02	1430

ADDITIONAL COMMENTS:
Required QC: Reagent Blanks
Method Blanks
MS/MSD Spike

F+O 600

Fuss & O'Neill Inc.
consulting engineers
Environmental Field Services

CHAIN-OF-CUSTODY RECORD № 050383

FUSS & O'NEILL, INC.
146 HARTFORD ROAD
MANCHESTER, CT 06040
(860) 646-2469

0209006 3

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
RIDEM - Turner Dance	Providence, RI	19964541.50	ESS

REPORT TO: ~~Patrick Bowling, F+O, Prov, RI~~

INVOICE TO: Frank Gally, RIDEM, OWM

P. O. #: (Invoice + Report to Frank Gally)

Source Codes: MW=Monitor Well; RO=Run Off; T=Treatment Facility; X=Other, Specify Trip blank; B=Bottom Sediment; O=Outfall; S=Soil; W=Well; L=Lake/Pond/Ocean; PW=Potable Water; SG=Sludge; LF=Landfill; R=River/Stream; ST=Septic Tank

ITEM NUMBER	SAMPLE NUMBER	SOURCE CODE	CONTAINER NO.	CONTAINER TYPE	CONTAINER SIZE	CONTAINER PRESERV.	ANALYSIS REQUIRED	COMMENTS	TRANSFER NUMBER & CHECK 1	2	3	4
~~13~~ 13	601020905-08	S	2	6	8oz	I	SVOC's (8270), TPH (8100m)		✓	✓	✓	
14	↓	↓	1	V	40ml	X/I	VOC's (8260)		✓	✓	✓	
15	↓ -09	X	1	V	40ml	X/I	VOC's (8260) - Trip Blank		✓	✓	✓	

Container Code: P=Plastic V=VOA Vial C=Cube G=Glass A=Amber Glass T=Teflon Lid B=Bacteria Bottle

Preservative Code: I=Iced F=Filtered N=Nitric Acid [HNO_3] H=Hydrochloric Acid [HCl] S=Sodium Hydroxide [NaOH] T=Sodium Thiosulfate [$Na_2S_2O_3$] B=Sodium Bisulfate [$NaHSO_4$] O=Sulfuric Acid [H_2SO_4] A=Ascorbic Acid [$C_6H_8O_6$] X=Other, Specify

Sampler's Signature	Affiliation	Date	Time
	F+O	9/05/02	1700

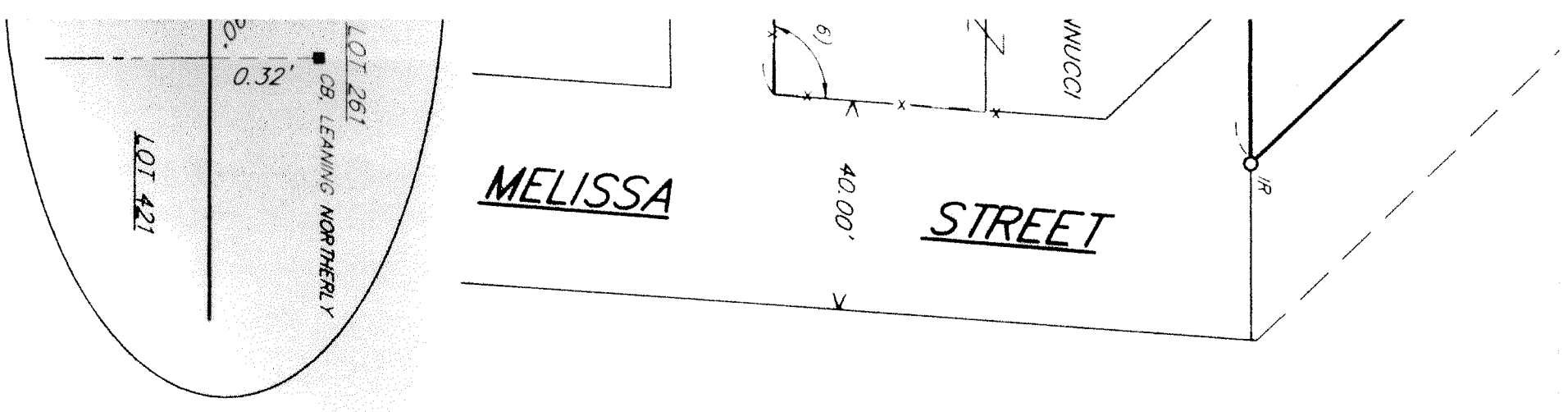
ADDITIONAL COMMENTS:
See COC # 050382

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	13-15		F+O Fridge	9/5/02	1800
2	13-15	F+O Fridge		9/06/02	1218
3	13-15			9/6/02	17:18
4				9/6/02	1430

F+O 500

APPENDIX D

CLASS I SURVEY



BOUNDARY SURVEY PLAN

OF LAND OF

PROVIDENCE TURNERS

ASSESSOR'S MAP 113 LOTS 261 & 419

GLENBRIDGE AVENUE, MELLISSA STREET
AND RHODE ISLAND ROUTE 6
PROVIDENCE, RHODE ISLAND

PROJECT NO.: SS1930
DRAWING NO.: SS2719

SHEET 1 OF 1

SCALE: 1" = 30' DATE: JANUARY 28, 2003 REVISION:

JOHN MENSINGER
No. 1806
PROFESSIONAL
LAND SURVEYOR

GLENBRIDGE

THIS SURVEY AND
THE RHODE ISLAND

BY:

JOHN MEN

APPENDIX E

REMEDIAL ALTERNATIVE OPINIONS OF COST

FUSS & O'NEILL, INC.

275 Promenade Street, Suite 350
Providence, RI 02908

OPINION OF COST	DATE PREPARED : 01/28/03	SHEET 1 OF 1
PROJECT : Former Lincoln Lace Mill Landfill Capping	BASIS : Sept. 2000 site plan with updated additional landfill area.	
LOCATION : Ponagansett Ave., Providence, RI	Unit costs obtained from recent landfill closure construction schedule of values,	
DESCRIPTION: Haul and Dispose Landfilled Waste	and RIDOT standard unit prices.	
DRAWING NO. : 1 of 2	ESTIMATOR : NSW	CHECKED BY : TSG

Since Fuss & O'Neill has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, Fuss & O'Neill's opinion of probable Total Project Costs and Construction Cost are made on the basis of Fuss & O'Neill's experience and qualifications and represent Fuss & O'Neill's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but Fuss & O'Neill cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from opinions of probable cost prepared by Fuss & O'Neill. If prior to the bidding or negotiating Phase the Owner wishes greater assurance as to Total Project or Construction Costs, the Owner shall employ an independent cost estimator.

ITEM NO.	ITEM DESCRIPTION	UNIT MEAS.	NO. UNITS	PER UNIT	TOTAL COST*
1	Clear, Grub, Chip & Stockpile	Ac	2.0	$7,500.00	$15,000.00
2	Remove and Dispose Pavement	L.S.	1	$1,500.00	$1,500.00
3	Remove and Dispose Debris	L.S.	1	$1,500.00	$1,500.00
4	Excavate and Load Landfilled Material	C.Y.	42,100	$2.75	$115,775.00
5	Haul and Dispose Landfilled Material	C.Y.	42,100	$21.50	$905,150.00
6	General Fill	C.Y.	16,670	$7.50	$125,025.00
7	Topsoil	C.Y.	1,650	$24.00	$39,600.00
8	Hydroseed	M.S.F.	89	$55.00	$4,895.00
9	Erosion Control Blanket	S.Y.	9,900	$2.20	$21,780.00
10	Silt Fence Backed with Haybales	L.F.	1,300	$3.60	$4,680.00
11	Anti-Tracking Apron	L.S.	1	$1,000.00	$1,000.00
	CONSTRUCTION COST				$1,235,905
12	Misc. E&S Control (sweep, dust control)	L.S.	1	$4,000	$4,000.00
13	Testing Laboratory	L.S.	1	$4,000	$4,000.00
14	Stake-Out, Survey & As-Built Drawings	L.S.	1	$7,500	$7,500.00
15	Health & Safety Plan	L.S.	1	$5,500	$5,500.00
	SUBTOTAL				**$1,256,905.00**
	Mobilization/Demobilization				$10,000.00
	Construction Administration[2]				$10,000.00
	Contractor Bonds/Insurance				$4,000.00
	Contractor-Acquired Project Permits[3]				$4,000.00
	Contingency (25%)				$314,226.25
	TOTAL COST (ROUNDED TO NEAREST $1,000)				**$1,599,000**

Notes:
1. One round of testing of landfilled material assumed, with determination of suitability for disposal at Central Landfill in Johnston, RI.
2. Assumes part-time construction administration
3. Assumes only RIDEM preliminary determination wetland application required.

FUSS & O'NEILL, INC.

275 Promenade Street, Suite 350
Providence, RI 02908

OPINION OF COST	DATE PREPARED : 01/28/03	SHEET 1 OF 1
PROJECT : Former Lincoln Lace Mill Landfill Capping	BASIS : Sept. 2000 site plan with updated additional landfill area and detail sheet.	
LOCATION : Woonsocket, RI	Unit costs obtained from recent landfill closure construction schedule of values,	
DESCRIPTION: Soil Cap Closure Construction	R.S. Means Sitework and Landscape Cost Data and RIDOT standard unit prices.	
DRAWING NO. : 1 and 2 of 2	ESTIMATOR : NSW	CHECKED BY : TSG

Since Fuss & O'Neill has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, Fuss & O'Neill's opinion of probable Total Project Costs and Construction Cost are made on the basis of Fuss & O'Neill's experience and qualifications and represent Fuss & O'Neill's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but Fuss & O'Neill cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from opinions of probable cost prepared by Fuss & O'Neill. If prior to the bidding or negotiating Phase the Owner wishes greater assurance as to Total Project or Construction Costs, the Owner shall employ an independent cost estimator.

ITEM NO.	ITEM DESCRIPTION	UNIT MEAS.	NO. UNITS	PER UNIT	TOTAL COST*
1	Clear, Grub, Chip & Stockpile	Ac	2.0	$7,500.00	$15,000.00
2	Remove and Dispose Pavement	L.S.	1	$1,500.00	$1,500.00
3	Remove and Dispose Debris	L.S.	1	$1,500.00	$1,500.00
4	Earthwork	C.Y.	3,250	$2.75	$8,937.50
5	Cover Soil	C.Y.	4,950	$16.50	$81,675.00
6	Topsoil	C.Y.	1,650	$24.00	$39,600.00
7	Hydroseed	M.S.F.	89	$55.00	$4,895.00
8	Erosion Control Blanket	S.Y.	9,900	$2.20	$21,780.00
9	Silt Fence Backed with Haybales	L.F.	1,300	$3.60	$4,680.00
10	Monitoring Well Extension	Ea	2	$300.00	$600.00
11	Anti-Tracking Apron	L.S.	1	$1,000.00	$1,000.00
	CONSTRUCTION COST				$181,168
12	Misc. E&S Control (sweep, dust control)	L.S.	1	$3,500	$3,500.00
13	Testing Laboratory	L.S.	1	$3,500	$3,500.00
14	Stake-Out, Survey & As-Built Drawings	L.S.	1	$7,500	$7,500.00
15	Health & Safety Plan	L.S.	1	$5,500	$5,500.00
	SUBTOTAL				**$201,167.50**
	Mobilization/Demobilization				$6,500.00
	Construction Administration[1]				$8,000.00
	Contractor Bonds/Insurance				$4,000.00
	Contractor-Acquired Project Permits[2]				$10,000.00
	Contingency (25%)				$50,291.88
	TOTAL COST (ROUNDED TO NEAREST $1,000)				**$280,000**

Notes:
1. Assumes part-time construction administration
2. Assumes only RIDEM preliminary determination wetland application required.

G:\Notebk1.QPW

FUSS & O'NEILL, INC.

275 Promenade Street, Suite 350
Providence, RI 02908

OPINION OF COST	DATE PREPARED : 01/28/03	SHEET 1 OF 1
PROJECT : Former Lincoln Lace Mill Landfill Capping	BASIS : Sept. 2000 site plan with updated additional landfill area and typical details for geomembrane caps.	
LOCATION : Ponagansett Ave., Providence, RI	Unit costs obtained from recent landfill closure construction schedule of values,	
DESCRIPTION: Geomembrane Cap Closure Construction	and RIDOT standard unit prices.	
DRAWING NO. : 1 of 2	ESTIMATOR : NSW	CHECKED BY : TSG

Since Fuss & O'Neill has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, Fuss & O'Neill's opinion of probable Total Project Costs and Construction Cost are made on the basis of Fuss & O'Neill's experience and qualifications and represent Fuss & O'Neill's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but Fuss & O'Neill cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from opinions of probable cost prepared by Fuss & O'Neill. If prior to the bidding or negotiating Phase the Owner wishes greater assurance as to Total Project or Construction Costs, the Owner shall employ an independent cost estimator.

ITEM NO.	ITEM DESCRIPTION	UNIT MEAS.	NO. UNITS	PER UNIT	TOTAL COST*
1	Clear, Grub, Chip & Stockpile	Acre	2.0	$7,500	$15,000
2	Remove and Dispose Debris	L.S.	1	$1,500.00	$1,500
3	Remove and Dispose Pavement	L.S.	1	$1,500.00	$1,500
4	Excavation/Slope Reconstruction	C.Y.	46,000	$5.00	$230,000
5	Non-Woven Geotextile	S.F.	89,100	$0.25	$22,275
6	Textured Geomembrane Liner	S.F.	89,100	$0.35	$31,185
7	12" Drainage Layer	C.Y.	3,300	$25.00	$82,500
8	12" Vegetative Support Layer	C.Y.	3,300	$13.50	$44,550
9	Hydroseeding	S.F.	89,100	$0.05	$4,455
10	Erosion Control Blanket	S.F.	89,100	$0.25	$22,275
11	Cap Anchor and Drain	L.F.	950	$32.25	$30,638
12	Underdrain	L.F.	1,500	$2.50	$3,750
13	Cap Subbase Material	C.Y.	1,650	$13.60	$22,440
14	Silt Fence Backed with Haybales	L.F.	1,300	$3.60	$4,680
	CONSTRUCTION COST				$516,748
15	Misc. E&S Control (sweep, dust control)	L.S.	1	$4,000	$4,000.00
16	Testing Laboratory	L.S.	1	$6,000	$6,000.00
17	Stake-Out, Survey & As-Built Drawings	L.S.	1	$9,000	$9,000.00
18	Health & Safety Plan	L.S.	1	$5,500	$5,500.00
	SUBTOTAL				**$535,747.50**
	Mobilization/Demobilization				$25,000.00
	Construction Administration[1]				$20,000.00
	Contractor Bonds/Insurance				$10,500.00
	Contractor-Acquired Project Permits[2]				$10,000.00
	CONTINGENCY (25%)				$133,936.88
	TOTAL COST (ROUNDED TO NEAREST $1,000)				**$735,000**

Notes:
1. Assumes part-time construction administration
2. Assumes only RIDEM preliminary determination wetland application required.

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