



**EJOC Contract Number: N68950-00-D-0200  
Delivery Order Number 0117**

## **DELIVERY ORDER CLOSURE REPORT**

**Relocate Stockpiled ACM Soils from  
Camp Moffett Area to Supplside Landfill**

*Naval Station Great Lakes,  
Great Lakes, Illinois*

Prepared for:

**Department of the Navy, Environmental Department  
Naval Station Great Lakes**

Building 1-A 201 Decatur Avenue

Great Lakes, IL 60088-5600

Prepared By:

**ToI Test, Inc.**

1020 S. Northpoint Boulevard

Waukegan, IL 60085

August 2006

***TOI TEST, INC.***

**ENVIRONMENTAL JOB ORDER CONTRACT  
NO. N68950-00-D-0200  
DELIVERY ORDER NO. 0117**

**FINAL DELIVERY ORDER CLOSURE REPORT  
RELOCATE STOCKPILED ACM SOILS FROM  
CAMP MOFFETT AREA TO SUPPLYSIDE LANDFILL  
NAVAL STATION GREAT LAKES  
GREAT LAKES, ILLINOIS**

**PREPARED FOR**



**DEPARTMENT OF THE NAVY  
NAVAL STATION GREAT LAKES  
ENVIRONMENTAL DEPARTMENT  
BUILDING 1-A, 201 DECATUR AVENUE  
GREAT LAKES, ILLINOIS 60088-5600**

**SUBMITTED  
AUGUST 2006**

**BY**

***TOLTEST, INC.***

**1020 S. NORTHPOINT BOULEVARD  
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**TolTEST PROJECT NO. 20653.01**

**FINAL DELIVERY ORDER CLOSURE REPORT  
RELOCATE STOCKPILED ACM SOLS FROM  
CAMP MOFFETT AREA TO SUPPLYSIDE LANDFILL  
NAVAL STATION GREAT LAKES  
GREAT LAKES, ILLINOIS**

**EJOC NO. N68950-00-D-0200  
DELIVERY ORDER NO. 0117**

*Submitted by:*

**TOLTEST, INC.  
1020 S. Northpoint Boulevard  
Waukegan, Illinois 60085**

*TolTest, Inc. hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under this contract is complete, accurate, and complies with all requirements of the contract.*

Prepared by:   
Tim Boos, Quality Control Representative

Date: 08/01/06

Reviewed by:   
Jeff Tinney, Project Manager

Date: 08/01/06

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## LIST OF ACRONYMS

ACM	Asbestos Containing Material
CFR	Code of Federal Regulations
CY	Cubic yard
DO	Delivery Order
EJOC	Environmental Job Order Contract
EPA	Environmental Protection Agency
f/cc	Fibers per cubic centimeter
IEPA	Illinois Environmental Protection Agency
Lake County	Lake County Grading, Inc.
Navy	Department of the Navy
NIOSH	National Institute for Occupational Safety and Health
NSGL	Naval Station Great Lakes
OSHA	Occupational Safety and Health Administration
PCM	Phase Contrast Microscopy
P-Day	Processing-Day
PEL	Permissible Exposure Limits
RFP	Request for Proposal
Site	Camp Moffett area
SSL	Supplyside Landfill
TolTest	TolTest, Inc.
TTL	TTL Associates, Inc.
USACE	United States Army Corps of Engineers



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## EXECUTIVE SUMMARY

TolTest, Inc. (TolTest) was retained by the Department of the Navy (Navy), Naval Facilities Engineering Command, Midwest under Environmental Job Order Contract (EJOC) No. N68950-00-D-0200, Delivery Order (DO) No. 0117 to relocate stockpiled Asbestos Containing Material (ACM) soil from the Camp Moffett area (site) to the Supply Side Landfill (SSL). The site is located at the Recruit Training Center and the SSL is located at the Naval Station Great Lakes (NSGL), south of Forrestal Village.

During construction activities, transite impacted soil was encountered that required relocation to prevent future delays in the construction of the new Processing-Day (P-Day) Barracks at Camp Moffett. The contaminant, transite asbestos, was classified as non-friable asbestos; therefore, the transite impacted soil is not regulated by the United States or Illinois Environmental Protection Agencies.

During the construction of the SSL and Forrestal Caps (DOs 68 & 69, respectively), the Navy provided the low permeable clay and topsoil. Both the clay and topsoil was generated from site grading activities at a construction site located at the RTC and was transported to the SSL and stockpiled for use in the cap constructions. After the clay was placed, TolTest spread the Navy provided topsoil over the clay to restore the sites. The topsoil was spread over the entire square area (3 acres) at Forrestal and approximately half (9 acres) of the SSL. Several weeks after the topsoil had been spread over both landfills, TolTest observed suspect material contained within the topsoil. TolTest informed the Navy of the suspected material contained within the topsoil and the Navy identified the suspect material as transite asbestos.

Upon the discovery that the topsoil was impacted with transite asbestos, the Navy sent the IEPA a letter informing the agency of the transite-impacted topsoil. The Navy's March 7, 2005 letter requested approval from the agency to leave the existing transite-impacted topsoil in place and cover the affected areas with a geotextile fabric and six-inches of clean topsoil over the fabric. The Navy also indicated that the clean topsoil would be seeded to establish vegetative cover.

After discovering that approximately 12,000 cubic yards (CY) of transite-impacted soil was excavated during the P-Day barrack construction project, the Navy sent a letter to the IEPA dated August 3, 2005 asking for approval to place the additional transite-impacted soil on the SSL. In a letter dated August 15, 2005, the IEPA concurred with the Navy's approach of managing the additional 12,000 CY of transite-impacted soil. The August 15, 2005 letter specifically required that the transite-impacted soil be placed over the area where the existing transite-impacted soil was already located, which was on the northern half of the SSL. The IEPA's letter also required that the Navy install a geotextile fabric over the affected area once all the soil had been relocated to the SSL and place six additional inches of clean topsoil over the fabric to allow vegetative cover to establish.

As previously mentioned the IEPA requested that a non-woven geofabric liner be installed over the newly placed non-friable asbestos-impacted soil and then covered with six-inches of clean topsoil. The non-woven geofabric will minimize the potential of asbestos particulate matter from



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migrating up through the liner and being exposed at the surface of the SSL. The liner will allow water to leach through the material minimizing the potential for creating sheer planes while allowing storm water drainage from SSL.

After clean topsoil was placed over the liner, the final phase of the restoration process included restoration activities to establish a vegetative cover over the clean topsoil. The vegetation will provide esthetic value to the Navy's property and will serve as a form of erosion control to prevent soil from eroding at SSL.

TolTest completed the following tasks associated with this DO:

- Loaded and transported approximately 12,000 CY of non-friable transite-impacted soil from the site to the northern half of the SSL.
- Implemented engineering controls at the site and SSL to control fugitive dust emissions.
- Performed personal and environmental air sampling during the field activities.
- Placed and compacted the non-friable asbestos-impacted soil on the northern portion of the SSL, where the existing asbestos-impacted soil was located.
- Relocated non-friable asbestos-impacted topsoil from the side slopes on the northern portion of the SSL to the top of the northern portion of the SSL.
- Placed a non-woven geofabric over the non-friable asbestos-impacted soil.
- Placed six-inches of clean topsoil over the liner.
- Hydroseeded the topsoil to establish a vegetative cover.

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## 1.0 INTRODUCTION

Work for this DO was performed in accordance with the work practices and procedures set forth in the *Final Work Plan and Health & Safety Plan*, submitted to the Department of the Navy in October 2005. A copy of this document is on file with the Environmental Department located at the NSGL. The original Request for Proposal (RFP) from the Navy identified the loading and transportation of approximately 12,000 CYs of stockpiled ACM soil from the Camp Moffett area to the SSL.

As previously stated, this DO involved the relocation of stockpiled transite-impacted soil from the Camp Moffett area to the SSL, restoration of the sites; and preparation this Delivery Order Closure Report. A site location map, located in **Appendix A**, shows the area where the ACM impacted soil was removed.

TolTest and its various subcontractors executed the field activities for this DO while adhering to the following regulation and/or standards:

- 29 Code of Federal Register (CFR) 1910.134, Occupational Safety and Health Administration (OSHA) Respiratory Protection Program
- 29 CFR 1910.120, OSHA Hazardous Waste Operations and Emergency Procedures
- 29 CFR 1926.1101, OSHA Asbestos Standard for Construction
- 40 CFR Part 61, Environmental Protection Agency National Emissions Standards for Hazardous Air Pollutants
- 40 CFR 763 Subpart E, Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act
- 40 CFR 763 Subpart E, Appendix C, EPA Model Accreditation Plan
- 49 CFR Part 61, United States Department of Transportation
- U.S. Army Corps of Engineers (USACE) Safety Manual EM385-1-1
- Unified Facilities Guide Specification (UFGS) Section 01525, Safety Requirements

### 1.1 Personnel

Project management was implemented to manage resources, control quality, and ensure safe and efficient execution of the project. The TolTest Project Manager, Mr. Jeff Tinney, was supported by the Site Superintendent and technical staff, which provided guidance and technical advice before and during the execution of the field activities.

### 1.2 Permitting and Notification

Since the contaminant in question is non-regulated, the IEPA did not require a 10-Day notification for excavation, transportation, or spreading the impacted soil. Since the IEPA does not regulate this material, personnel involved in this project were required to only be certified in asbestos awareness. The objective of this training was to provide personnel with a general



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knowledge of how to identify asbestos and the proper engineering controls that can be implemented to minimize exposure to asbestos.

As previously mentioned, after the Navy discovered that transite-impacted topsoil had been spread over the Forrestal and SSL landfills during the execution of DOs 69 & 68, the Navy informed the IEPA in a letter dated March 7, 2005 that transite-impacted soil was present on the Forrestal Landfill and the northern half of the SSL. In the March 7, 2005 letter, the Navy requested approval to cover the transite-impacted soil with a non-woven geotextile fabric that would allow water to pass through the fabric while preventing transite asbestos particles from migrating up through the fabric where it would pose a hazard to human health and the environment.

When the Navy discovered that 12,000 additional CY of transite-impacted soil was excavated and stockpiled at the site, The Navy sent a second letter to the IEPA dated August 3, 2005 asking for approval to place the additional 12,000 CY of transite-impacted soil over the areas where the transite-impacted was already located at the SSL. The IEPA replied to Navy's request in a August 15, 2005 letter indicating concurrence with the Navy's proposed approach and granted the navy the necessary approval to proceed with relocating approximately 12,000 CY of transite-impacted soil from the site to the SSL. A copy of the IEPA's August 15, 2005 letter is presented in **Appendix B**.

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## 2.0 FIELD ACTIVITIES

This section of the report details the work performed to complete this DO. All field activities were performed in accordance with OSHA and USACE Safety Manual EM385-1-1.

### 2.1 Mobilization and Site Set-Up

On October 11, 2005 TolTest mobilized to the project site after issuance of a purchase order from the Navy. TolTest personnel conducted a site walk with the Navy to discuss the procedures that were utilized to perform the following tasks:

- Site access and control
- Site Work
- Engineering Controls and how to evaluate their effectiveness
- Demobilization

An inspection of the work areas was conducted to identify any hazards or unusual conditions that may be present and would need to be addressed prior to proceeding with the execution of the scope of work. TolTest and the Navy also identified the lateral area of impact to establish the work area. Exterior work areas were segregated with caution tape at an adequate distance from the work areas to deter unauthorized personnel from approaching the work areas. Asbestos warning tape and appropriate signage were used to demarcate the exterior work areas.

On October 11, 2005, TolTest collected two background air samples to document the concentration of asbestos fibers in the air. The laboratory analytical report indicated that the background concentration of asbestos adjacent to the asbestos-containing stockpiled soil ranged between 0.0055 and 0.0062 fibers per cubic centimeter (f/cc). These background sample results were used to establish the criteria for which all environmental air samples were compared to.

### 2.2 Site Work

Although this project involved the movement of non-friable asbestos-impacted soils that are not regulated by the IEPA, TolTest had a responsibility to protect their workers and any subcontractors involved in the site work. The principle regulations applicable to the protection of the environment and personnel are OSHA and USACE Safety Manual regulations. To ensure that TolTest personnel, subcontractor personnel, and Navy personnel were not exposed to asbestos fibers above the permissible exposure limit of 0.1 f/cc, TolTest implemented engineering controls to manage the emissions of potentially asbestos-impacted dust. The primary engineering control consisted of wetting the soil to reduce dust levels.

During the execution of this project, air monitoring was conducted to verify that the engineering controls were successful in managing fugitive dusts. Based on the laboratory analytical results for the air monitoring that was conducted, the primary engineering control was successful in managing fugitive dusts. Further discussions of air sampling activities and the results of the air samples are discussed in **Section 2.3** of this report.

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### 2.2.1 Load Soil

Prior to the relocation of the asbestos-impacted soil from the site to the SSL, TolTest's subcontractor, Lake County Grading, Company (Lake County) removed the asbestos-impacted topsoil from the SSL northern side slopes between October 12 and October 13, 2005. The asbestos-impacted topsoil was removed from the side slopes and placed on top of the SSL. Since the side slopes have an approximate angle of 33% and the accord between the Navy and the IEPA required that the asbestos-impacted soil be covered with a geotextile fabric and then six-inches of topsoil, TolTest removed the asbestos-impacted topsoil from the side slopes to prevent the placement of fabric on the slopes. Had a fabric been used to cover the asbestos-impacted topsoil located on the side slopes, there would have been a high probability of the topsoil that would have been placed over the fabric would have slid down the slope due to the creation of a shear plane.

After the asbestos-impacted topsoil was removed from the SSL side slopes, Lake County loaded and transported a small asbestos-impacted topsoil stockpile that was located adjacent to Building 3502 to the SSL between October 13 and October 14, 2005. The asbestos-impacted topsoil was placed on the top of the SSL and graded to ensure that the existing 3% slope on the top of the SSL was maintained. This 3% slope was designed to allow storm water to flow from the SSL to the adjacent drainage swales.

Once the asbestos-impacted topsoil from the SSL side slopes and the stockpile located adjacent to Building 3502 was moved to the top of the SSL, Lake County mobilized their crew and equipment to the P-Day site. Between October 17 and October 19, 2005, Lake County loaded and transported approximately 12,000 CY of asbestos-impacted topsoil from the site to the SSL.

The asbestos-impacted soil was loaded into the dump trucks utilizing a tracked loader. Once the trucks were loaded, Lake County covered the end dump with a tarp to minimize the potential for asbestos fibers or debris being released during transportation to the SSL. After the end dumps were covered, the trucks transported the impacted soil to the SSL where it was dumped on the top of the SSL.

During the transportation of the asbestos-impacted soil, TolTest and Lake County followed the traffic plan that was provided to TolTest by the Navy and their construction contractor. This traffic plan was strictly adhered to throughout the duration of the soil transportation phase of the project. There were no vehicle or safety incidents during the execution of this DO.

As asbestos-impacted soil was being loaded into the end dumps, TolTest utilized a simple engineering control that included wetting the soil to minimize dust. Throughout the duration of the project, TolTest used standard fire hose connected to a fire hydrant equipped with a back flow preventor to mist the stockpiles soil. To evaluate the effectiveness of our engineering controls to manage fugitive dust, TolTest placed air monitoring sample pumps downwind of the work area. These downwind environmental air samples were collected and analyzed utilizing the National Institute for Occupational Safety and Health (NIOSH) Method 7400.

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Personal air samples were collected from the breathing zone of the equipment operators to evaluate the workers exposure to asbestos fibers. The personal air samples were also collected and analyzed by NIOSH Method 7400. Further discussion of the environmental and personal air samples is discussed in **Section 2.3**.

### 2.2.2 Asbestos-contaminated Soil Placement

After the dump trucks transported the soil to the SSL, the soil was dumped on the top of the SSL and spread over the northern portion of the SSL utilizing a dozer. Each load of soil was dumped on the SSL and spread in a manner to maintain the existing slope of the SSL top. The SSL has a 3% slope from west to east to help control storm water runoff and erosion. In accordance with the Navy's accord with the IEPA, the slope was maintained to ensure proper storm water runoff control.

Based on the surface area to be affected, approximately 8 acres, the top elevation of the SSL was raised approximately 1.5 feet. To minimize settling, each load of soil was compacted utilizing a dozer and sheepsfoot. This equipment removed voids between soil particles and compacted the soil to approximately 90% of the maximum dry density of the material. This same approach was proven to be successful during the construction of the SSL cap.

After the soil was placed and compacted on the SSL, TolTest installed a non-woven 8 ounce geofabric over the asbestos-impacted soil. The fabric was overlapped and the seams were fused together to minimize the potential of asbestos particles from migrating up through the fabric. The purpose of the liner was to minimize the potential of transite asbestos from migrating up through the liner and being exposed at the surface. In accordance with the SOW for this DO, TolTest contracted a geotechnical engineer to evaluate the durability of the fabric and ensure that the fabric would perform as intended. TolTest contracted TTL Associates, Inc. (TTL) to perform the engineering evaluation of the fabric. TTL evaluated the fabric to be suitable for the intended purpose and provided a letter stating that the fabric would perform as intended. A copy of the letter from TTL with their recommendation to use the fabric is provided in **Appendix C**.

Once the liner was installed, TolTest imported and placed clean topsoil. The topsoil was spread over the liner in one 7-inch lift. Due to the time of year the topsoil was imported and spread over the liner, TolTest could not hydroseed the topsoil with any degree of confidence that the seed would germinate and begin to grow.

In June 2006, Lake County mobilized to the SSL to repair the side slopes where erosion had occurred. After the side slopes were repaired, B&B Permanent Seed hydroseeded the SSL. TolTest will continue to maintain the area until the vegetative cover establishes a root system.

## **2.3 Asbestos Air Sampling**

Personal and environmental asbestos air sampling was conducted in accordance with OSHA Class II asbestos removal requirements. Asbestos air samples were collected on a 25- millimeter mixed-cellulose ester (MCE) filter cassettes and analyzed by the Phase Contrast Microscopy (PCM) method. TolTest collected and analyzed the air samples.

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**Personal Sampling** – Personal air samples are collected to evaluate the concentration of asbestos that workers are exposed to during their normal shift. In this case, personal air samples were collected from Lake County equipment operators that were directly involved in the loading operations where exposure to asbestos was high.

All the personal air samples that were collected from the Lake County equipment operators were submitted to IATL for analysis by NIOSH Method 7400. The laboratory analytical reports indicated that none of the personal air sample results exceeded the OSHA Permissible Exposure Limits, which is listed below. A copy of the laboratory analytical reports for the personal air samples is provided in **Appendix D**.

Asbestos Permissible Exposure Limits (PEL) is as follows:

- The OSHA PEL for worker exposure to airborne asbestos is 0.1 f/cc as an 8-hour time weighted average.

**Environmental Sampling** – Environmental sampling was conducted in areas surrounding the regulated work areas. The purpose of collecting environmental air samples is to evaluate the effectiveness of the engineering controls that were implemented to manage fugitive dusts in the area. The laboratory analytical reports for all environmental air samples indicated that two of the environmental samples were evaluated at concentrations slightly above the background concentration of asbestos fibers in the general vicinity. The two samples above the background concentration were detected at 0.012 and 0.0077 f/cc. The remaining environmental air samples were evaluated at concentrations at or below the background concentration established by the collection of two background air samples prior to the start of work.

The two environmental air samples detected above the background concentrations were more than likely a result of excess dust collected in the sample cassette. Since the samples were analyzed by the PCM method, any amount of particulate matter collected on the cassette can interfere with the analysis. According to the notes in the daily report prepared by the TolTest superintendent, both days where the environmental air samples exceeded background concentrations, weather conditions were very windy and dusty. Since PCM sample analysis can not differentiate between asbestos and non-asbestos fibers and the actual results were below the OSHA PEL, no associates involved in the execution of this DO were exposed to asbestos above the OSHA PEL. Copies of the environmental air samples laboratory analytical reports are presented in **Appendix D**.



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### 3.0 SUMMARY

TolTest completed the tasks associated with the relocation of asbestos-impacted soil to the SSL on October 20, 2005. The asbestos-impacted soil was relocated from their respective locations to the top of the SSL without a single safety incident. As the soil was imported to the SSL, Lake County spread, graded, and compacted to asbestos-impacted soil while maintaining the 3% slope on the top of the SSL.

After the asbestos-impacted soil was spread and compacted, TolTest placed an 8-ounce non woven geotextile fabric over the asbestos-impacted soil. The fabric was welded to minimize the potential of asbestos from migrating to the surface of the SSL and covered with a minimum of six-inches of clean topsoil.

In June 2006, Lake County mobilized their crew and equipment to the SSL to repair areas where erosion occurred. After the SSL erosion damage was repaired, TolTest hydroseeded the SSL. Approximately 9 acres of the SSL, specifically, the northern half where all the work had occurred, was restored with grass seed. TolTest will continue to maintain the area until the vegetative cover establishes a root system.

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To Supplside Landfill, NSGL  
TolTest Project No. 20653.01  
June 2006



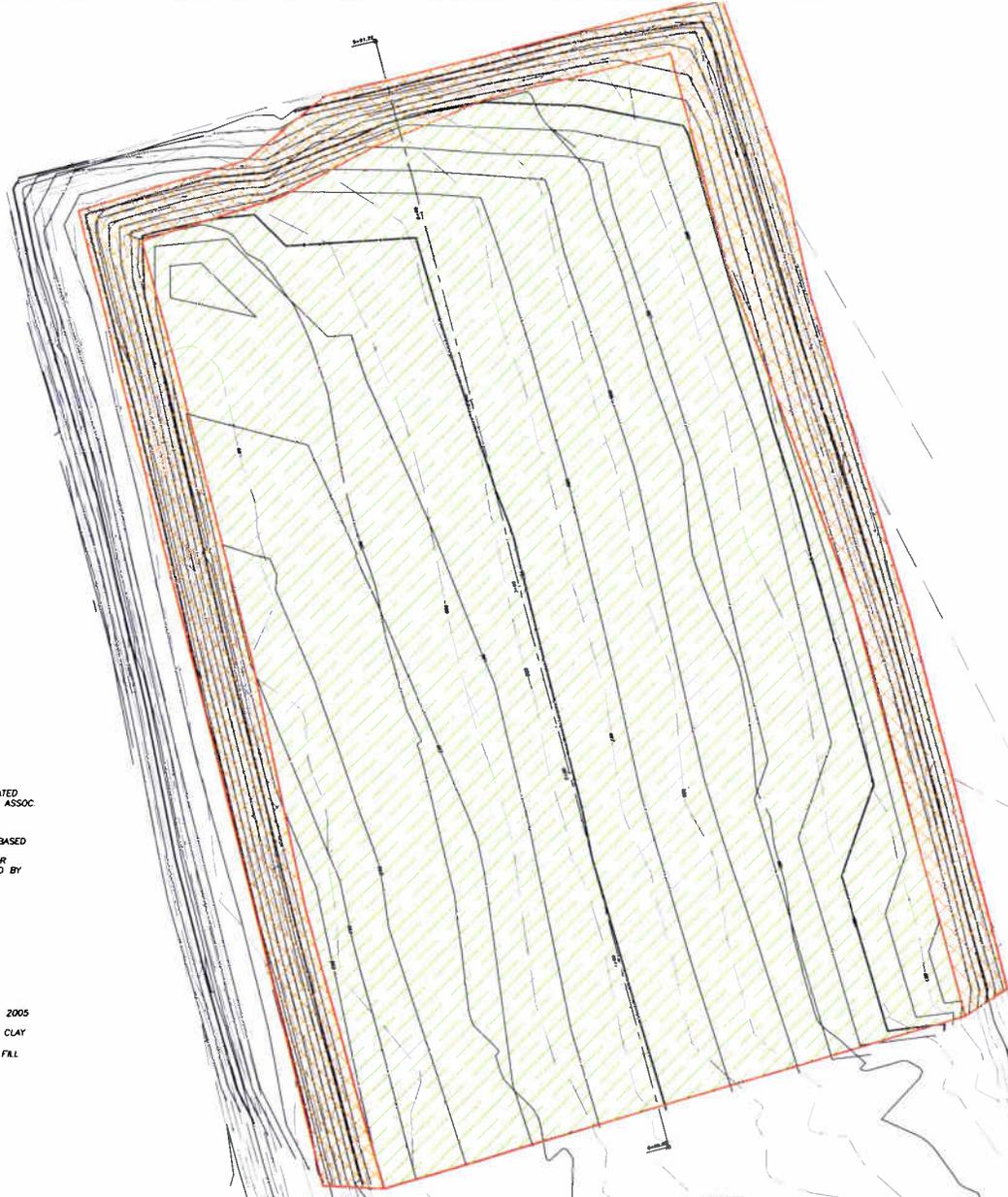
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**APPENDIX A**  
**FIGURES**

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LANDFILL EARTHWORK CALCULATIONS  
 SUPPLY SIDE LANDFILL  
 GREAT LAKES NAVAL BASE  
 PREPARED FOR: TOLTEST, INC.

1	2
1/17/08	
600 TIMBER CREEK ROAD - P.O. BOX 496 - DEON, IL 61021 - (615) 288-2281 25 E. WARDEN - SUITE 3 - PRINCETON, IL 61350 - (615) 994-4751 1001 FREESTONE RD. - STURGEON, IL 61081 - (615) 638-4432 E. MAIL: info@wensl.com	
<b>WENDLER ENGINEERING SERVICES, INC.</b> Structural & Civil Engineers-Land Surveying-Environmental Services Illinois Professional Design Firm No. 184-000648	
	
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**SUMMARY OF EARTHWORK CALCULATION**

CONTAMINATED FILL = 10,648 CU. YD.

SIDE SLOPE TOP SOIL REMOVAL, 6"± = 721 CU. YD.

TOP SOIL PLACEMENT, 1 1/2" = 721 CU. YD.

QUANTITIES ARE CALCULATED BETWEEN THE BLACKLEDGE SURVEY, DATED NOV. 9TH, 2005 (FINAL SURFACE) & GRAFF, ANHALT SCHLOEMER & ASSOC. (TOP OF CLAY SURFACE)

THE EARTHWORK CALCULATIONS INCLUDED WITH THESE PLANS ARE BASED UPON FIELD SURVEY INFORMATION PROVIDED BY OTHERS. WENDLER ENGINEERING SERVICES, INC. MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, FOR ERRORS CAUSED BY WORK OR INFORMATION PROVIDED BY OTHERS.

**LEGEND**

-  BLACKLEDGE SURVEY-FINAL SURFACE-DATED NOV. 9TH, 2005
-  GRAFF ANHALT SCHLOEMER & ASSOC. (G.A.S.)-TOP OF CLAY
-  1 1/2" TOP SOIL PLACEMENT & AREA OF CONTAMINATED FILL
-  6"± TOP SOIL REMOVAL

DATE	1/17/06
BY	
CHECKED	
APPROVED	

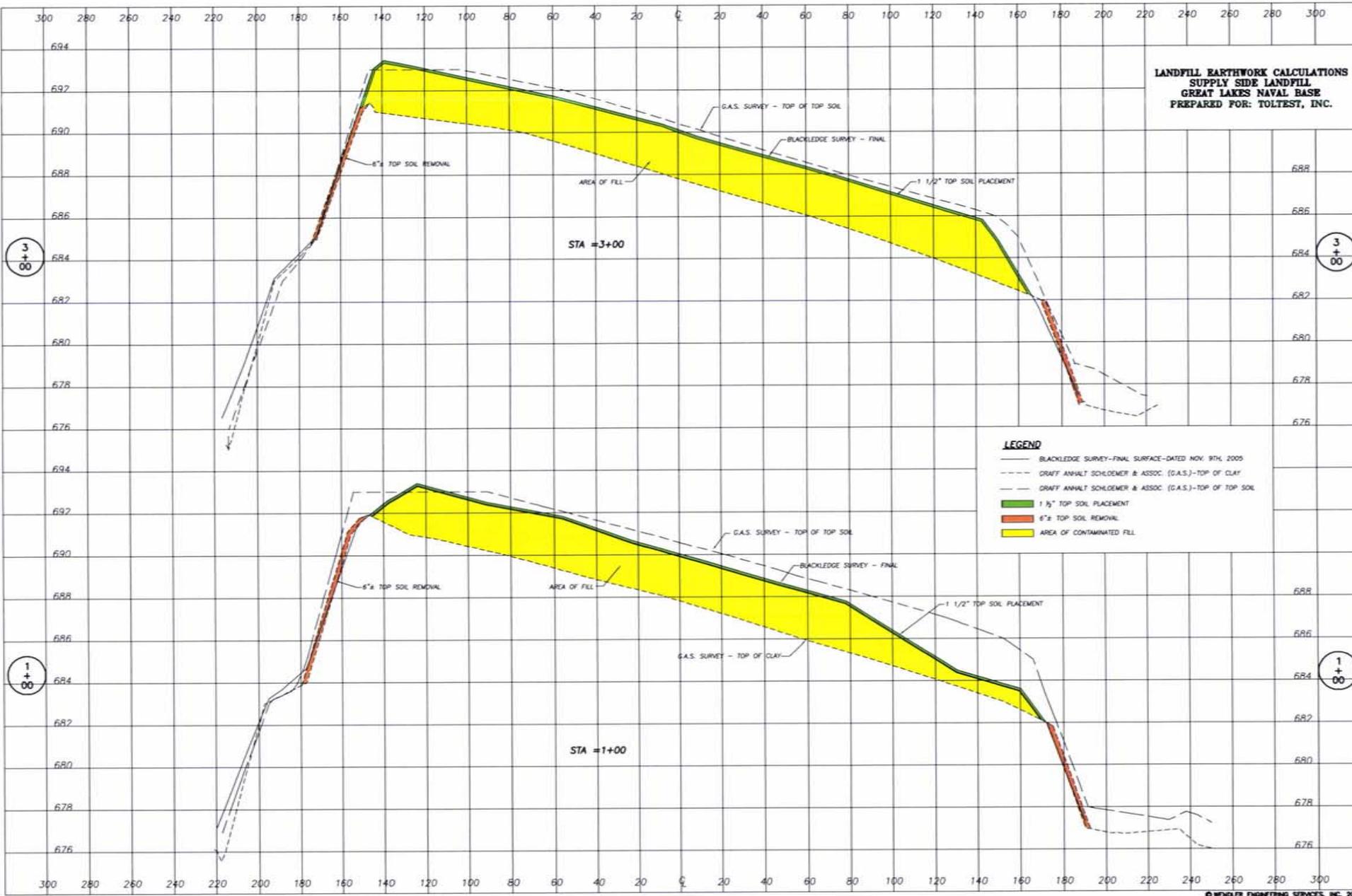
500 NIMBLE CREEK ROAD - P.O. BOX 495 - DEON, IL 61021 - (815) 286-2281  
 25 E. WILSON - SUITE 3 - WENDELL, IL 61386 - (815) 899-4731  
 1001 FORT ST. - ST. LOUIS, IL 63101 - (314) 251-4428  
 C. MALL - INDEPENDENCE, MO

**WENDLER ENGINEERING SERVICES, INC.**  
 Structural & Civil Engineers-Land Surveying-Environmental Services  
 Illinois Professional Design Firm No. 154-000568



1/17/06  
 38  
 WENDLER ENGINEERING SERVICES, INC.

**LANDFILL EARTHWORK CALCULATIONS**  
**SUPPLY SIDE LANDFILL**  
**GREAT LAKES NAVAL BASE**  
**PREPARED FOR: TOLTEST, INC.**



**LEGEND**

- BLACKLEDGE SURVEY-FINAL SURFACE-DATED NOV. 9TH, 2005
- DRAFT ANHALT SCHLOEMER & ASSOC. (G.A.S.)-TOP OF CLAY
- DRAFT ANHALT SCHLOEMER & ASSOC. (G.A.S.)-TOP OF TOP SOIL
- █ 1 1/2" TOP SOIL PLACEMENT
- █ 6" TOP SOIL REMOVAL
- █ AREA OF CONTAMINATED FILL

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TolTest Project No. 20653.01  
June 2006



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**APPENDIX B**

**IEPA AUGUST 15, 2005 LETTER**

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# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276, 217-782-3397  
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601, 312-814-6026

ROD R. BLAGOJEVICH, GOVERNOR

(217) 557-8155  
(FAX) 782-3258

August 15, 2005

Department of the Navy  
NAVFAC MIDWEST  
c/o J. Blayne Kirsch  
Environmental Department  
201 Decatur Avenue  
Great Lakes, Illinois 60088-5600

Re: Letter from the Navy, Dated August 2, 2005  
Regarding Transite Impacted Topsoil at  
Naval Station Great Lakes, Great Lakes, Illinois

0971255048 – Lake County  
Naval Training Center Great Lakes  
Superfund/Technical Reports

Dear Mr. Kirsch:

The Illinois Environmental Protection Agency (Illinois EPA or Agency) is in receipt of the Navy's letter regarding transite-impacted topsoil at Supplyside Landfill, Naval Station Great Lakes, Great Lakes, Illinois. It was dated August 2, 2005 and was received via facsimile on August 3, 2005. The submittal requests approval to add an additional 12,000 cubic yards of transite-impacted topsoil to the northern half of the Supplyside Landfill. This would be over and above that which has already been placed there and discussed previously, in the Agency's March 7, 2005 letter.

Illinois EPA has reviewed the Navy's letter and considered your request. As noted in our previous letter, this situation is unfortunate, but it appears to be a recurring theme there on base. It appears the likelihood of finding transite-impacted topsoil on base during any excavation work is highly likely. The Navy should, therefore, assume this is the case and prepare all future work plans with this in mind. The Navy will need to consider in those plans, the additional costs for disposal of potentially contaminated media, the personal protection equipment requirements, and the safety requirements regarding mobilization of the fibrous material and suppression of dust during any fieldwork. Illinois EPA will be reviewing all future documents with this in mind.

In regards to the Navy's request to place an additional 12,000 cubic yards of transite-impacted topsoil on Supplyside Landfill, the Agency has made the following determination:

As per the telephone discussion between the Navy and Illinois EPA on July 22, 2005, subsequent face-to-face discussions, and the referenced letter, our understanding of the situation is that the additional impacted topsoil is from the same recapitalization program on base as the original source, will be limited to this one revision in volume, and will be placed entirely on the northern end of Supplyside Landfill. It is also understood that there will be placed above the impacted soil a geotextile fabric and a minimum of 6 inches of clean, imported topsoil. There will be established a vegetative layer to control erosion of the

ROCKFORD – 4302 North Main Street, Rockford, IL 61103 – (815) 987-7760 • DES PLAINES – 9511 W. Harrison St., Des Plaines, IL 60016 – (847) 294-4000  
ELGIN – 595 South State, Elgin, IL 60123 – (847) 608-3131 • PEORIA – 5415 N. University St., Peoria, IL 61614 – (309) 693-5463  
BUREAU OF LAND - PEORIA – 7620 N. University St., Peoria, IL 61614 – (309) 693-5462 • CHAMPAIGN – 2125 South First Street, Champaign, IL 61820 – (217) 278-5800  
SPRINGFIELD – 4500 S. Sixth Street Rd., Springfield, IL 62706 – (217) 786-6892 • COLLINSVILLE – 2009 Mall Street, Collinsville, IL 62234 – (618) 346-5120  
MARION – 2309 W. Main St., Suite 116, Marion, IL 62959 – (618) 993-7200

Transite-Impacted Topsoil Letter  
Naval Station Great Lakes  
August 15, 2005  
Page 2 of 2

placed topsoil, in order to ensure the transite material will not be exposed at the surface where there would be an unacceptable risk to human health. Finally, the appropriate land use restrictions would be placed on the property, as discussed previously.

While the Agency believes this additional volume of contaminated topsoil should be disposed in an appropriately licensed facility according to the State's regulations rather than as requested, it is also understood that the cost for such disposal would be significant and would place a substantial hardship on the Navy program under which it would be invoiced, which would affect future environmental work on base. Illinois EPA also understands that there is already in place on Supplyside Landfill, a fairly large volume of transite-impacted topsoil, and the change in final grade to that part of the landfill, by placing the additional 12,000 cubic yards, would be minimal (approximately 1 foot in elevation). With all of this in mind, including the Navy's requested course of action, Illinois EPA has decided to concur with the Navy's request to increase the quantity of transite-impacted topsoil on Supplyside Landfill. However, the Navy should consider this the last revision to the proposed course of action. Illinois EPA will not be amenable to any further changes, either to the volume of topsoil included or to the addition of any other waste material to either landfill, Supplyside or Forestall. Any future additions to either landfill would be considered the re-opening of that landfill, which would make the current State landfill regulations applicable.

As noted in the Agency's previous letter and in the Navy's letter, Illinois EPA would like to review the geotextile specifications, prior to its installation, to ensure it will be appropriate for the use intended.

If you have any questions regarding anything in this correspondence, you may contact me at (217) 557-8155 or via electronic mail at [Brian.Conrath@epa.state.il.us](mailto:Brian.Conrath@epa.state.il.us).

Sincerely,

*Brian A. Conrath*

Brian A. Conrath  
Remedial Project Manager  
Federal Facilities Unit  
Federal Site Remediation Section  
Bureau of Land

BAC:  RAC:H:lgintc\Forrestal\FW081505ltr

cc: Owen Thompson, USEPA (SR-6J)

Final Delivery Order Closure Report  
EJOC Contract No. N68950-00-D-0200, D.O. 0117  
Relocate ACM Soil from Camp Moffett area  
To Supplyside Landfill, NSGL  
To!Test Project No. 20653.01  
June 2006



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**APPENDIX C**  
**GEOTEXTILE CERTIFICATION**

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1810 North 12th Street  
Toledo, OH 43624-1302  
T 419-324-2222  
F 419-241-1808  
www.ttlassoc.com

October 31, 2005

**TTL Project No. 16104.01**

Mr. Jeff Tinney  
TolTest, Inc.  
1000 Northpoint  
Waukegon, IL 60085

**Review of Geotextile Specification  
for Landfill Cover System  
Supply Side Landfill Restoration  
Naval Station Great Lakes  
Great Lakes, Illinois**

Dear Mr. Tinney:

At your request, we have reviewed the material properties and project suitability of a geotextile identified for use in the above-referenced project. Specifically, the product requested for review was Gundle/SLT Environmental Inc. (GSE) GEO 0808002, an 8 oz/SY, polypropylene, non-woven needle-punched geotextile.

**Project Background**

We understand that the geotextile will be used as a separation fabric between existing cover materials that include soils impacted with "Transite™" and a new topsoil layer that will be seeded for final cover of the landfill area, encompassing approximately 12 acres of cover area. The "Transite™" material is essentially a crushed rigid asbestos-containing pipe material that was found to be present in the existing cover soil. Rather than remove this existing impacted cover soil, the proposed solution is to encapsulate it with the geotextile separation layer to prevent migration of the impacted material into the new topsoil cover.

Detailed specifications were not stipulated for the geotextile. Criteria for suitability include:

- Sufficient permeability to allow for downward movement of rainfall percolation, so as not to create a ponded condition on the cover.
- Appropriate equivalent or apparent opening size in the geotextile so as not to allow migration of "Transite™" particles into the topsoil.

In addition, the geotextile should have strength properties commensurate with fabrics used in ground stabilization applications, since the geotextile will need to resist tearing or puncture during installation of the topsoil cover.

Permeability, apparent opening size, and strength properties of the GSE 0808002 geotextile were reviewed based on the GSE Product Data Sheet specifications as follows. Independent testing to confirm material properties was beyond the scope of this evaluation. For reference, Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction" (January 1, 2002) were reviewed for geotextile physical property specifications.

## Summary of Evaluations

### Permeability

The product data sheet for GSE 0808002 indicates a minimum permeability of 0.3 centimeter/second, which corresponds to approximately 425 inches/hour. Even for short intense rainfall on the order of 1 inch in 15 minutes, the GSE 0808002 permeability would be approximately 100 times this rate. In actuality, the permeability of the topsoil cover overlying the geotextile will be less than the geotextile permeability. The IDOT specifications do not indicate a specific permeability for geotextiles, but provide a general criterion for riprap applications that the permeability of the fabric must be an order of magnitude greater (more than 10 times) than the permeability of the soil. Permeability data on the proposed topsoil was not furnished, but based on normal particle sizes of typical topsoil, permeabilities on the order of  $1 \times 10^{-5}$  cm/sec or less would be expected. As such, the permeability of the GSE 0808002 is several orders of magnitude greater than that of the topsoil.

In summary, the permeability of the proposed GSE 0808002 is more than satisfactory to allow percolation of rainfall through the geotextile.

### Apparent Opening Size

We understand that the "Transite™" material is nominally 3/8 inches thick and is crushed to an approximate 1-inch size. This size is roughly equivalent to fine to coarse gravel. We further understand that this material is essentially inert and will not degrade or "weather" to a dust-like material. The product data sheet for GSE 0808002 indicates an apparent opening size (AOS) of the No. 80 sieve (approximately 0.18 millimeters), which is roughly equivalent to very fine sand. As such, the gravel-size "Transite™" material is too large to migrate through the geotextile.

The IDOT specifications for piping resistance (i.e., soil retention) indicate that where soils have more than 50 percent "fines" (particles passing the No. 200 [75 $\mu$ m] sieve), the geotextile should have an AOS less than 0.3 millimeters. We anticipate that the topsoil will have more than 50 percent passing the No. 200 sieve, and as such, the proposed GSE 0808002 meets this criteria with a factor of safety of more than 1.5 with respect to AOS.

### Strength Properties

While strength of the geotextile is not expected to be critical as a separation fabric in the final cover system, strength will be important during the construction phase of the new cover system. The IDOT specifications provide minimum physical properties for geotextile fabrics used in ground stabilization applications. These minimum requirements are summarized in the following table and are compared with the proposed GSE 0808002 product specifications.

Physical Property and Test Method	IDOT Minimum Requirements	GSE 0808002 Product Specifications	Comparison with IDOT Requirements
Grab Tensile Strength (lb), ASTM D 4632	200	220	Exceeds IDOT
Trapezoidal Tear Strength (lb), ASTM D 4533	75	95	Exceeds IDOT
Weight (oz/SY), ASTM D 3776	4.0	8	Exceeds IDOT

As indicated above, the physical properties of the GSE 0808002 meet or exceed the IDOT requirements for geotextiles used in ground stabilization applications. It is our opinion that the proposed non-woven geotextile has suitable strength characteristics for successful utilization in the proposed cover application.

**Additional Considerations**

We understand that the “seams” between individual roll widths will be sewn or welded to provide a continuous fabric separator. This would be the preferred method to avoid pullout or discontinuities. However, should there be areas where sewing or welding is not used, we recommend that these locations incorporate a minimum overlap width of 3 feet to avoid seam separations due to strain or deflection in the fabric layer and the underlying subgrade.

Even with the above-noted strength properties, we recommend that a minimum cover of 12 inches of topsoil or other soil material be maintained on areas of the geotextile that are subject to truck traffic, dozers, or graders during the course of the topsoil installation to avoid puncture or tearing.

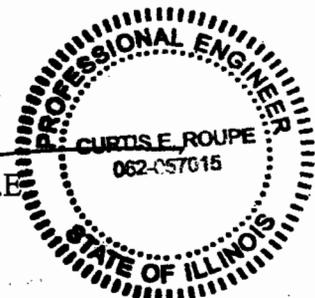
Lastly, care should be taken to minimize exposure of the fabric to ultraviolet light. We do not anticipate that this will be a concern, since topsoil cover operations are expected to follow geotextile placement within a few days at most.

TTL Associates appreciates this opportunity to provide our geotechnical services to TolTest, Inc. If there are any questions concerning this information, or if we may be of further assistance, please contact us.

Respectfully submitted,  
TTL Associates, Inc.

*J. Scott Heisey*  
J. Scott Heisey, P.E.  
Chief Geotechnical Engineer

*Curtis E. Roupe*  
Curtis E. Roupe, P.E.  
Vice President



Final Delivery Order Closure Report  
EJOC Contract No. N68950-00-D-0200, D.O. 0117  
Relocate ACM Soil from Camp Moffett area  
To Supplside Landfill, NSGL  
To/Test Project No. 20653.01  
June 2006



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## APPENDIX D

### LABORATORY ANALYTICAL RESULT

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## P-Day Barracks

### Compiled Air Results

Contract No.: N68950-00-D-0200

To/ Test Project No.: 20653.01

Delivery Order No.: 0117

Sample No.	Sample Type	Date	Description	Results Fibers/cc
001	BA	10/11/2005	Background sample from SSLF, NAD83 UTM 16T 0428095, 4683209	<0.0055
002	BA	10/11/2005	Background sample from SSLF, NAD83 UTM 16T 0428232, 4682695	<0.0062
003	FB	10/11/2005	Field Blank	
004	FB	10/11/2005	Field Blank	
005	EN	10/13/2005	Downwind Environmental Sample, Located NAD83 UTM 16T 0428232, 4628695	<0.0021
006	P	10/13/2005	Personal Sample, Equipment operator, "Rusty", Loading soil from stockpile west of 3502.	<0.0064
007	FB	10/13/2005	Field Blank	
008	FB	10/13/2005	Field Blank	
009	EN	10/14/2005	Environmental Downwind sample, NAD83 UTM 16T 0428293, 4682808	<0.0039
010	P	10/14/2005	Personal Sample, Equipment operator, Steven M "Rusty", Loading soil from stockpile west of 3502.	<0.0064
011	BA	10/14/2005	Background sample on east side of large stockpile at P-day Barracks, NAD83 UTM 16T 0430101, 4684471	<0.0054
012	BA	10/14/2005	Background sample on east side of smaller stockpile at P-day Barracks, NAD83 UTM 16T 0430186, 4684579	<0.0062
013	FB	10/14/2005	Field Blank	
014	FB	10/14/2005	Field Blank	
015	EN	10/17/2005	Environmental Downwind sample, collected north of the small stockpile at the P-day Barracks	<0.012
016	P	10/17/2005	Personal sample, Equipment Operator John G. loading out soil from stockpiles.	0.024
017	EN	10/17/2005	Environmental Downwind sample, collected north of the large stockpile at the P-day Barracks, near the SW corner of building.	<0.0050
018	FB	10/17/2005	Field Blank	
019	FB	10/17/2005	Field Blank	
020	EN	10/18/2005	Environmental downwind sample, collected from southeast of the large stockpile at the P-day barracks.	<0.0077
021	P	10/18/2005	Personal sample, Tim B, Laborer watering soil pile to control dust	<0.0090
022	EN	10/18/2005	Environmental downwind sample, collected from southeast of the large stockpile at the P-day barracks	<0.0045
023	P	10/18/2005	Personal sample, Tim B, Laborer watering soil pile to control dust	0.0049
024	FB	10/18/2005	Field Blank	
025	FB	10/18/2005	Field Blank	
026	EN	10/19/2005	Environmental downwind sample, collected from the southeast of the large stockpile at the P-day barracks	<0.0031
027	P	10/19/2005	Personal sample, Tim B, Laborer watering soil pile to control dust	<0.0049
028	FB	10/19/2005	Field Blank	
029	FB	10/19/2005	Field Blank	
			<b>OSHA Action Level</b>	<b>0.1</b>

**Notes:** FB = Field Blank  
 BA = Background  
 EN = Environmental  
 P = Personal  
 OSHA Action Level = 0.1 F/cc

International Asbestos Testing Laboratories  
 16000 Horizon Way, Unit 100  
 Mt. Laurel, New Jersey 08054

Tel. 856 231-9449  
 Fax 856 231-9818

**- Chain of Custody -**

**Client:** To Test, Inc. **Project Name:** Supply Side Landfill Soil Haul  
1030 S. Northpoint Blvd **Project No.:** 20653.01  
Waukegan, IL 60085

**Phone:** 847 689 0697 **Contact:** Tim Boos  
**FAX:** 847 689 0698 **Pages: Cell** 847 812 9565

**Special Instructions:** Email results to Tim.Boos@ToTest.com

**Type:**

<u>Asbestos</u>			<u>Lead</u>			<u>Other</u>		
<input checked="" type="checkbox"/>	Air	<input type="checkbox"/>	Soil	<input type="checkbox"/>	Air	<input type="checkbox"/>	Soil	_____
<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Dust	<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Paint	_____
<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	_____

**Analysis Method:**

<input checked="" type="checkbox"/>	PCM : NIOSH 7400	<input type="checkbox"/>	PLM : Bulk Asbestos EPA 600	<input type="checkbox"/>	TEM : AHERA
<input type="checkbox"/>	PCM : OSHA	<input type="checkbox"/>	PLM : Point Counting 198.1	<input type="checkbox"/>	TEM : NIOSH 7402
<input type="checkbox"/>	PCM : Other _____	<input type="checkbox"/>	PLM : NOB via 198.1 (PLM only)	<input type="checkbox"/>	TEM : EPA Level II
<input type="checkbox"/>	AAS : NIOSH 7082 (Air)	<input type="checkbox"/>	If <1% by PLM, to TEM via 198.4	<input type="checkbox"/>	TEM : Microvac / Wipe
<input type="checkbox"/>	AAS : Lead in Drinking Water	<input type="checkbox"/>	to meet NYSDOH requirements **	<input type="checkbox"/>	TEM : Asbestos in Water
<input type="checkbox"/>	AAS : Lead in Paint ASTM D3335-85a	<input type="checkbox"/>	(**call to confirm TAT!)	<input type="checkbox"/>	TEM : Bulk Analysis
<input type="checkbox"/>	AAS : Lead Dust/Wipe	<input type="checkbox"/>		<input type="checkbox"/>	TEM : NOB 198.4
<input type="checkbox"/>	AAS : Other Metals / Soil _____	<input type="checkbox"/>		<input type="checkbox"/>	TEM : Other _____
				<input type="checkbox"/>	Total Dust : NIOSH 0500

**Turnaround Time:**

**FAX:** \_\_\_\_\_ **Verbals:** \_\_\_\_\_  
 date / time date / time

10 Day    5 Day    3 Day    2 Day    1 Day    6 hour    RUSH

Preliminary FAX/Verbal Results Requested by: \_\_\_\_\_

**Sample Numbers:**

Client #(s): 0001 - 0004 IATL#(s): \_\_\_\_\_ - \_\_\_\_\_ Total: \_\_\_\_\_  
 (start) (end) (start) (end)

**Chain of Custody:**

Relinquished:	<u>Tim Boos</u>	Date:	<u>10/11/05</u>
Received:	<u>[Signature]</u>	Date:	_____
Sample Log-in:	<u>[Signature]</u>	Date:	_____
Sample Prep:	<u>[Signature]</u>	Date:	_____
Analyzed:	<u>[Signature]</u>	Date:	<u>10/12/05</u>
QA/QC Review:	<u>[Signature]</u>	Date:	_____

**RECEIVED**  
 Date: 10/12/05 Time: 06:12  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

Archived/Released: \_\_\_\_\_ QA/QC InterLAB Use: \_\_\_\_\_ Date: IATL-BY Time: \_\_\_\_\_

**To/ Test, Inc.**  
**Sample Summary Sheet: NIOSH 7400**

Project No.: 20653.01  
 Facility: Supply Side Landfill Soil Haul  
 Area: NAVSTA Great Lakes

To/ Test Rep: Tim Boos  
 Client Rep: Bill Busko  
 Date: 10/11/05

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	Fibers/cc	Result
			On	Off					
001	BA	NAD83 UTM 16T 0428095 4683209 Background Sample 2385050	12:52	15:36	164	3.0	492	2.55	<0.0055
002	BA	NAD83 UTM 16T 0428232 4682695 Background Sample 2385051	13:05	15:30	145	3.0	435	2.55	<0.0062

**FIELD BLANKS:**

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	F <sub>field</sub>	F/mm <sup>2</sup>	F/cc
			On	Off					
003	FB	Field Blank 2385052							
004	FB	Field Blank 2385053							

\* BA - Background, P - Personal, CL - Clearance, EN - Environmental, FB - Field Blank

International Asbestos Testing Laboratories  
 16000 Horizon Way, Unit 100  
 Ft. Laurel, New Jersey 08054

Tel. 856 231-9449  
 Fax 856 231-9818

**- Chain of Custody -**

Client: To/Rest, Inc Project Name: Supply Side Landfill Soil Haul  
1020 S. Northpoint Blvd Project No.: 20653.01  
Waukegan, IL 60085  
 Phone: 847 689 0697 Contact: Tim Boos  
 FAX: 847 689 0698 Pages: Call 847 812 9565  
 Special Instructions: Email results to Tim.Boos@ToRest.com

**Type:**

Asbestos			Lead			Other		
<input checked="" type="checkbox"/>	Air	<input type="checkbox"/>	Soil	<input type="checkbox"/>	Air	<input type="checkbox"/>	Soil	_____
<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Dust	<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Paint	_____
<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	_____

**Analysis Method:**

<input checked="" type="checkbox"/>	PCM : NIOSH 7400	<input type="checkbox"/>	PLM : Bulk Asbestos EPA 600	<input type="checkbox"/>	TEM : AHERA
<input type="checkbox"/>	PCM : OSHA	<input type="checkbox"/>	PLM : Point Counting 198.1	<input type="checkbox"/>	TEM : NIOSH 7402
<input type="checkbox"/>	PCM : Other _____	<input type="checkbox"/>	PLM : NOB via 198.1 (PLM only)	<input type="checkbox"/>	TEM : EPA Level II
<input type="checkbox"/>	AAS : NIOSH 7082 (Air)	<input type="checkbox"/>	If <1% by PLM, to TEM via 198.4	<input type="checkbox"/>	TEM : Microvac / Wipe
<input type="checkbox"/>	AAS : Lead in Drinking Water	<input type="checkbox"/>	to meet NYSDOH requirements **	<input type="checkbox"/>	TEM : Asbestos in Water
<input type="checkbox"/>	AAS : Lead in Paint ASTM D3335-85a	<input type="checkbox"/>	(**call to confirm TAT!)	<input type="checkbox"/>	TEM : Bulk Analysis
<input type="checkbox"/>	AAS : Lead Duz/Wipe "	<input type="checkbox"/>		<input type="checkbox"/>	TEM : NOB 198.4
<input type="checkbox"/>	AAS : Other Metals / Soil _____	<input type="checkbox"/>		<input type="checkbox"/>	TEM : Other _____
				<input type="checkbox"/>	Total Dust : NIOSH 0500

**Turnaround Time:**

FAX: \_\_\_\_\_ Verbal: \_\_\_\_\_  
 date / time date / time

10 Day  5 Day  3 Day  2 Day  1 Day  6 hour  RUSH  
 Preliminary FAX/Verbal Results Requested by: \_\_\_\_\_

**Sample Numbers:**

Client #(s): 005 - 008 IATL #(s): \_\_\_\_\_ Total: \_\_\_\_\_  
 (start) (end) (start) (end)

**Chain of Custody:**

Relinquished:	<u>Tim Boos</u>	Date:	<u>10/14/05</u>	Time:	_____
Received:	<u>[Signature]</u>	Date:	<u>10/14/05</u>	Time:	_____
Sample Log-in:	<u>[Signature]</u>	Date:	<u>10/14/05</u>	Time:	_____
Sample Prep:	<u>[Signature]</u>	Date:	<u>10/14/05</u>	Time:	_____
Analyzed:	<u>[Signature]</u>	Date:	<u>10/14/05</u>	Time:	_____
QA/QC Review:	<u>[Signature]</u>	Date:	<u>10/14/05</u>	Time:	_____

Archived/Released: \_\_\_\_\_ QA/QC InterLAB Use: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

TolTest, Inc.  
Sample Summary Sheet: NIOSH 7400

Project No.: 20653.01  
 Facility: Supply Side Landfill Soil Haul  
 Area: NAVSTA Great Lakes

TolTest Rep: Tim Boos  
 Client Rep: Bill Busko  
 Date: 10/13/05

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	MMMF <del>MMMF</del>	Result Fibers/cc
			On	Off					
005	EN	NAD83 UTM NUT 0428232 4628045 2387609	0145	1450	425	3.0 <sup>70</sup>	1275	2.55	<0.0021
006	P	Equipment Operator (Rusty) Backhoe loading Soil, CAT 350 2387610	0800	1500	420	1.0 <sup>70</sup>	420	2.55	<0.0064

**FIELD BLANKS:**

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	Field	F/mm <sup>2</sup>	F/cc
			On	Off					
007	FB	Field Blank 2387611							
008	FB	Field Blank 2387612							

\* BA - Background, P - Personal, CL - Clearance, EN - Environmental, FB - Field Blank

International Asbestos Testing Laboratories  
 16000 Horizon Way, Unit 100  
 Mt. Laurel, New Jersey 08054

Tel. 856 231-9449  
 Fax 856 231-9818

**- Chain of Custody -**

Client: To | Test, Inc Project Name: Supply Side Landfill Soil Haul  
1020 S. Northpoint Blvd Project No.: 20653.01  
Waukegan, IL 60085  
 Phone: 847 689 0697 Contact: Tim Boas  
 FAX: 847 689 0698 Pager: Cell 847 812 9565  
 Special Instructions: Email results to Tim.Boas@ToTest.com

**Type:**

Asbestos			Lead			Other		
<input checked="" type="checkbox"/>	Air	<input type="checkbox"/>	Soil	<input type="checkbox"/>	Air	<input type="checkbox"/>	Soil	_____
<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Dust	<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Paint	_____
<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	_____

**Analysis Method:**

<input checked="" type="checkbox"/>	PCM: NIOSH 7400	<input type="checkbox"/>	PLM: Bulk Asbestos EPA 600	<input type="checkbox"/>	TEM: AHERA
<input type="checkbox"/>	PCM: OSHA	<input type="checkbox"/>	PLM: Point Counting 198.1	<input type="checkbox"/>	TEM: NIOSH 7402
<input type="checkbox"/>	PCM: Other _____	<input type="checkbox"/>	PLM: NOB via 198.1 (PLM only)	<input type="checkbox"/>	TEM: EPA Level II
<input type="checkbox"/>	AAS: NIOSH 7082 (Air)	<input type="checkbox"/>	If <1% by PLM, to TEM via 198.4	<input type="checkbox"/>	TEM: Microvac / Wipe
<input type="checkbox"/>	AAS: Lead in Drinking Water	<input type="checkbox"/>	to meet NYSDOH requirements **	<input type="checkbox"/>	TEM: Asbestos in Water
<input type="checkbox"/>	AAS: Lead in Paint ASTM D3335-85a	<input type="checkbox"/>	(*call to confirm TAT!)	<input type="checkbox"/>	TEM: Bulk Analysis
<input type="checkbox"/>	AAS: Lead Dust/Wipe "	<input type="checkbox"/>		<input type="checkbox"/>	TEM: NOB 198.4
<input type="checkbox"/>	AAS: Other Metals / Soil _____	<input type="checkbox"/>		<input type="checkbox"/>	TEM: Other _____
		<input type="checkbox"/>		<input type="checkbox"/>	Total Dust: NIOSH 0500

**Turnaround Time:**

FAX: \_\_\_\_\_ Verbal: \_\_\_\_\_  
 date / time date / time

10 Day  5 Day  3 Day  2 Day  1 Day  6 hour  RUSH  
 Preliminary FAX/Verbal Results Requested by: \_\_\_\_\_

**Sample Numbers:**

Client #(s): 009 - 014 IATL #(s): \_\_\_\_\_ - \_\_\_\_\_ Total: \_\_\_\_\_  
 (start) (end) (start) (end)

**Chain of Custody:**

Relinquished:	<u>Tim Boas</u>	Date:	<u>10/17/05</u>	Time:	<u>15:00</u>
Received:	<u>[Signature]</u>	Date:	<u>10/17/05</u>	Time:	_____
Sample Log-in:	<u>[Signature]</u>	Date:	<u>10/17/05</u>	Time:	_____
Sample Prep:	<u>[Signature]</u>	Date:	<u>10/17/05</u>	Time:	_____
Analyzed:	<u>[Signature]</u>	Date:	<u>10/17/05</u>	Time:	_____
QA/QC Review:	<u>[Signature]</u>	Date:	<u>10/17/05</u>	Time:	_____

**RECEIVED**

Archived/Released: \_\_\_\_\_ QA/QC InterLAB Use: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

TolTest, Inc.

Sample Summary Sheet: NIOSH 7400

Project No.: 20653.01

Facility: Supply Side Landfill Soil Haul

Area: NAVSTA Great Lakes

TolTest Rep: Tim Boos

Client Rep: Bill Busko

Date: 10/14/05

*P/min<sup>2</sup>*

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	<del>Flow Rate</del>	Result Fibers/cc
			On	Off					
009	EN	UGT #428293, 4682508 UTM Environmental Sample 2388864	0800	1350	350 <sup>70</sup>	2.0	700	2.55	<0.0039
010	P	Steven Miller (Rusty), Operator, 350 CAT, Loading Soil Into Trucks from Stockpile West of 3502 2388865	0810	1430	350 <sup>70</sup>	1.2	420	2.55	<0.0064
011	BA	Background on <del>WEST</del> EAST side of large stockpile at P-day Barracks, UTM UGT #430101, 4684471	0852	1302	250 <sup>70</sup>	2.0	500	2.55	<0.0054
012	BA	Background on East side of smaller stockpile at P-day Barracks, UTM UGT #430186, 4684579	0902	1305	243 <sup>70</sup>	1.8	437.4	2.55	<0.0062
		2388867						AAA	

FIELD BLANKS:

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	Field	F/mm <sup>2</sup>	F/cc
			On	Off					
013	FB	Field Blank 2388868							
014	FB	Field Blank 2388869							

\* BA - Background, P - Personal, CL - Clearance, EN - Environmental, FB - Field Blank



ToITest, Inc.  
Sample Summary Sheet: NIOSH 7400

Project No.: 20653.01

ToITest Rep: Tim Boos

Facility: Supply Side Landfill Soil Haul

Client Rep: Bill Busko

Area: NAVSTA Great Lakes

Date: 10/17/05

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	Field	Result Fibers/cc	F/mm <sup>2</sup>
			On	Off						
015	EN	North of the small stockpile, P-day Barracks Environmental 2389949	0805	10:00	115	2.0	230	2/100	<0.012	2.55
016	P	Operator of CAT 963C John G, Loading out soil pile Personal 2389950	0810	1455	405 <del>5250</del>	2.0	810 <del>10500</del>	39/100	0.024	49.7
017	EN	North of load out area, SW corner of building Environmental 2389951	10:25	1455	270	2.0	540	7/100	<0.0050	2.55

FIELD BLANKS:

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	Field	F/mm <sup>2</sup>	F/cc
			On	Off					
018	FB	Field Blank 2389952							
019	FB	Field Blank 2389953							

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International Asbestos Testing Laboratories  
 16000 Horizon Way, Unit 100  
 Ft. Laurel, New Jersey 08054

Tel. 856 231-9449  
 Fax 856 231-9818

**- Chain of Custody -**

Client: To/ Test, Inc. Project Name: Supply Side Landfill Soil Haul  
1020 S. Northpoint Blvd Project No.: 20653.01  
Waukegan, IL 60085

Phone: 847 689 0697 Contact: Tim Boos  
 FAX: 847 689 0698 Pager: Cell 847 812 9565

Special Instructions: Email results to Tim.Boos@To/ Test.com

**Type:**

Asbestos			Lead			Other		
<input checked="" type="checkbox"/>	Air	<input type="checkbox"/>	Soil	<input type="checkbox"/>	Air	<input type="checkbox"/>	Soil	_____
<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Dust	<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Paint	_____
<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	_____

**Analysis Method:**

<input checked="" type="checkbox"/>	PCM : NIOSH 7400	<input type="checkbox"/>	PLM : Bulk Asbestos EPA 600	<input type="checkbox"/>	TEM : AHERA
<input type="checkbox"/>	PCM : OSHA	<input type="checkbox"/>	PLM : Point Counting 198.1	<input type="checkbox"/>	TEM : NIOSH 7402
<input type="checkbox"/>	PCM : Other _____	<input type="checkbox"/>	PLM : NOB via 198.1 (PLM only)	<input type="checkbox"/>	TEM : EPA Level II
<input type="checkbox"/>	AAS : NIOSH 7082 (Air)	<input type="checkbox"/>	If <1% by PLM, to TEM via 198.4	<input type="checkbox"/>	TEM : Microvac / Wipe
<input type="checkbox"/>	AAS : Lead in Drinking Water	<input type="checkbox"/>	to meet NYSDOH requirements **	<input type="checkbox"/>	TEM : Asbestos in Water
<input type="checkbox"/>	AAS : Lead in Paint ASTM D3335-85a	<input type="checkbox"/>	(**call to confirm TAT!)	<input type="checkbox"/>	TEM : Bulk Analysis
<input type="checkbox"/>	AAS : Lead Dust/Wipe "	<input type="checkbox"/>		<input type="checkbox"/>	TEM : NOB 198.4
<input type="checkbox"/>	AAS : Other Metals / Soil _____	<input type="checkbox"/>		<input type="checkbox"/>	TEM : Other _____
				<input type="checkbox"/>	Total Dust : NIOSH 0500

**Turnaround Time:**

FAX: \_\_\_\_\_ Verbal: \_\_\_\_\_  
 date / time date / time

10 Day  5 Day  3 Day  2 Day  1 Day  6 hour  RUSH

Preliminary FAX/Verbal Results Requested by: \_\_\_\_\_

**Sample Numbers:**

Client #(s): 020 - 025 IATL#(s): \_\_\_\_\_ Total: \_\_\_\_\_  
 (start) (end) (start) (end)

**Chain of Custody:**

Relinquished: _____	Date: _____ Time: _____
Received: _____	Date: <u>OCT 19 2005</u> Time: _____
Sample Log-in: _____	Date: _____ Time: _____
Sample Prep: _____	Date: _____ Time: _____
Analyzed: _____	Date: _____ Time: _____
QA/QC Review: _____	Date: _____ Time: _____

**RECEIVED**  
**IATL-By**

Archived/Released: \_\_\_\_\_ QA/QC InterLAB Use: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

TolTest, Inc.

Sample Summary Sheet: NIOSH 7400

Project No.: 20653.01

TolTest Rep: Tim Boos

Facility: Supply Side Landfill Soil Haul

Client Rep: Bill Busko

Area: NAVSTA Great Lakes

Date: 10/18/05

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	Field	Result Fibers/cc	F/mm <sup>2</sup>
			On	Off						
020	EN	Environmental, collected from the southeast of the stockpile 2391186	07:30	10:25	175	2.0	350	<del>2</del> / <del>100</del>	<0.0077	2.55
021	P	T. Boos, Dust control of pile with water. 2391187	07:30	10:00	150	2.0	300	<del>3</del> / <del>100</del>	<0.0090	2.55
022	EN	Environmental, collected from the southeast side of the stockpile 2391188	10:25	15:25	300	2.0	600	<del>2</del> / <del>100</del>	<0.0046	2.55
023	P	T. Boos, Dust control of pile with water 2391189	10:25	15:25	300	2.0	600	<del>1</del> / <del>100</del>	0.0049	7.64

FIELD BLANKS:

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	Field	F/mm <sup>2</sup>	F/cc
			On	Off					
024	FB	Field Blank 2391190							
025	FB	Field Blank 2391191							

\* BA - Background, P - Personal, CL - Clearance, EN - Environmental, FB - Field Blank

International Asbestos Testing Laboratories  
 16000 Horizon Way, Unit 100  
 Ft. Laurel, New Jersey 08054

Tel. 856 231-9449  
 Fax 856 231-9818

**- Chain of Custody -**

Client: To Test, Inc. Project Name: Supply Side Landfill Soil Haul  
1020 S. Northpoint Blvd Project No.: 20653.01  
Waukegan, IL 60085  
 Phone: 847 689 0697 Contact: Tim Boas  
 FAX: 847 689 0698 Pager: Cell 847 812 9565  
 Special Instructions: Email results to Tim.Boas@ToTest.com

**Type:**

<u>Asbestos</u>			<u>Lead</u>			<u>Other</u>		
<input checked="" type="checkbox"/>	Air	<input type="checkbox"/>	Soil	<input type="checkbox"/>	Air	<input type="checkbox"/>	Soil	_____
<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Dust	<input type="checkbox"/>	Bulk	<input type="checkbox"/>	Paint	_____
<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	<input type="checkbox"/>	Water	<input type="checkbox"/>	Other	_____

**Analysis Method:**

<input checked="" type="checkbox"/>	PCM : NIOSH 7400	<input type="checkbox"/>	PLM : Bulk Asbestos EPA 600	<input type="checkbox"/>	TEM : AHERA
<input type="checkbox"/>	PCM : OSHA	<input type="checkbox"/>	PLM : Point Counting 198.1	<input type="checkbox"/>	TEM : NIOSH 7402
<input type="checkbox"/>	PCM : Other _____	<input type="checkbox"/>	PLM : NOB via 198.1 (PLM only)	<input type="checkbox"/>	TEM : EPA Level II
<input type="checkbox"/>	AAS : NIOSH 7082 (Air)	<input type="checkbox"/>	If <1% by PLM, to TEM via 198.4	<input type="checkbox"/>	TEM : Microvac / Wipe
<input type="checkbox"/>	AAS : Lead in Drinking Water	<input type="checkbox"/>	to meet NYSDOH requirements **	<input type="checkbox"/>	TEM : Asbestos in Water
<input type="checkbox"/>	AAS : Lead in Paint ASTM D3335-85a	<input type="checkbox"/>	(**call to confirm TAT!)	<input type="checkbox"/>	TEM : Bulk Analysis
<input type="checkbox"/>	AAS : Lead Dust/Wipe	<input type="checkbox"/>		<input type="checkbox"/>	TEM : NOB 198.4
<input type="checkbox"/>	AAS : Other Metals / Soil _____	<input type="checkbox"/>		<input type="checkbox"/>	TEM : Other _____
		<input type="checkbox"/>		<input type="checkbox"/>	Total Dust : NIOSH 0500

**Turnaround Time:**

FAX: \_\_\_\_\_ Verbal: \_\_\_\_\_  
 date / time date / time

10 Day  5 Day  3 Day  2 Day  1 Day  6 hour  RUSH  
 Preliminary FAX/Verbal Results Requested by: \_\_\_\_\_

**Sample Numbers:**

Client #(s): 026 - 029 IATL #(s): \_\_\_\_\_ Total: \_\_\_\_\_  
 (start) (end) (start) (end)

**Chain of Custody:**

Relinquished:	<u>J. Boas</u>	Date:	<u>10/19/05</u>	Time:	<u>16:30</u>
Received:	_____	Date:	_____	Time:	_____
Sample Log-in:	_____	Date:	_____	Time:	_____
Sample Prep:	_____	Date:	_____	Time:	_____
Analyzed:	_____	Date:	<u>10/20/05</u>	Time:	_____
QA/QC Review:	_____	Date:	_____	Time:	_____

Archived/Released: \_\_\_\_\_ QA/QC InterLAB Use: \_\_\_\_\_ Date: IATL-BY Time: \_\_\_\_\_

**ToITest, Inc.**  
**Sample Summary Sheet: NIOSH 7400**

Project No.: 20653.01  
 Facility: Supply Side Landfill Soil Haul  
 Area: NAVSTA Great Lakes

ToITest Rep: Tim Boos  
 Client Rep: Bill Busko  
 Date: 10/19/05

Sample No.	Sample Type*	Description	Time		Total Minutes	Flow Rate (L/min)	Volume (L)	F/Min Field	Result Fibers/cc
			On	Off					
026	EN	Environment sample collected on top SE side of the stockpile. 2392377	08:15	10:25	430	2.0 <sup>7</sup> / <sub>10</sub>	860	255	<0.0031
027	P	T. Boos watering stockpile for dust control. Personal 2392378	08:10	12:45	275	2.0 <sup>7</sup> / <sub>10</sub>	550	255	<0.0049

**FIELD BLANKS:**

Sample No.	Sample Type*	Description	Time		Flow Rate (L/min)	Fibers	Field	F/min <sup>2</sup>	F/cc
			On	Off					
028	FB	Blank 2392379							
029	FB	Blank 2392380							

\* BA - Background, P - Personal, CL - Clearance, EN - Environmental, FB - Field Blank