

**NORTHSIDE COVER EXTENSION
INTERIM MEASURES REPORT**

**SOLUTIA, INC. FACILITY
Anniston, Alabama**

July 8, 2002

Prepared for:

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
1400 Coliseum Boulevard
Montgomery, Alabama 36110

Prepared by:

ROUX ASSOCIATES, INC.
1222 Forest Parkway, Suite 190
West Deptford, New Jersey 08066



CONTENTS

1.0 INTRODUCTION.....	1
2.0 INTERIM MEASURES.....	2
2.1 Remote Location Excavation.....	2
2.2 Multi-Layer Cover Construction	3
2.3 Asphalt Cover	4
2.4 Restoration.....	5
2.5 Fencing.....	6

FIGURES

1. As-Built Northside Cover Extension

APPENDICES

- A. Soil Sample Analytical Reports

1.0 INTRODUCTION

This Interim Measures Report has been prepared pursuant to the requirements of Condition III.F.3.b of the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) Post Closure and Corrective Action Permit for the Solutia Inc. (Solutia) Facility (the facility) located in Anniston, Alabama (RCRA Permit # ALD 004 019 048). It summarizes the details of Interim Measures that were constructed at the facility in the period between August and November 2000.

These measures were proposed by Solutia to minimize the potential for constituents to migrate from the facility and were determined to be appropriate by the Alabama Department of Environmental Management (ADEM) in a letter dated March 11, 1997. The details of the Interim Measures were provided in a Work Plan that was initially submitted to ADEM on September 21, 1999. The plan was revised on January 24, 2000, in response to comments received from ADEM in correspondence dated October 20, 1999 and December 15, 1999. This Work Plan is still under review by ADEM.

The Interim Measures described in the Work Plan supplement measures that were constructed by Solutia in 1997 and 1998 and which were described in Interim Measures reports dated March 31, 1998 and March 30, 1999. The North Side Cover Extension work was performed in accordance with the January 24, 2000 Interim Measures Work Plan (IMWP). Solutia Inc. maintains the documentation of the project at its Anniston, AL facility.

The specific measures proposed by Solutia in the IMWP included the following:

1. Removal of impacted soils in three (3) limited areas;
2. Construction of a multi-layer cover over a portion of the area; and
3. Fencing the newly-covered property.

2.0 INTERIM MEASURES

Solutia obtained all necessary permits prior to construction of the Interim Measures. On July 6, 2000 Solutia submitted a Notice of Intent to the ADEM for management of stormwater discharges during construction. ADEM issued an Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) General Permit ALG610000 (ALR105136) specifying that the cover extension work be implemented using Best Management Practices (BMPs) and spill/dust controls.

Solutia also secured a surface mining permit for a property it owns along Morrisville Road near the intersection of 11th Street in Calhoun, County. This property was used as a borrow source for the soil cover. Permit No. 8517 was issued on August 14, 2000 by the Alabama Department of Industrial Relations.

Solutia met all the permit requirements throughout the construction.

2.1 Remote Location Excavation

In accordance with the IMWP, three remote locations on Solutia property containing polychlorinated biphenyl (PCB) concentrations greater than 5 milligrams per kilogram (mg/Kg) were excavated and consolidated under the North Side Cover Extension. These locations were at the intersection of West 9th Street and Duncan Avenue, the intersection of West 10th Street and Parkwin Avenue, and east of Clydesdale Avenue. The locations ranged in size from 100 to 400 square feet. The excavated soil was placed in the Consolidation Areas shown on Figure 1.

Prior to backfilling the three locations, Genesis Project, Inc. collected samples to confirm the subsurface concentration of PCBs. Each of the three areas of excavation was divided into a grid with nodes on five-foot centers. Grab surface soil samples (0-3 inches below base of excavation) were then collected from the center of each grid cell and composited. All three composite soil samples (one from each excavated area) were field screened using immunoassay techniques by USEPA Method 4020. The screening results indicated the concentration of PCBs was less than 5 parts per million (ppm). The field screening results were confirmed through laboratory analysis (USEPA Method 8082) conducted by STL Laboratories in Mobile, Alabama. The sampling

locations are shown on Figure 1. The complete laboratory analytical report is provided in Appendix A. The laboratory analytical results indicated the following:

Location	Total PCB Concentration (mg/kg)
RCSL-1	0.11
RESL-1	2.4
RESL-2	4.3

In accordance with the IMWP, a non-woven geotextile barrier was placed on the base of each excavation. Cover soil was placed and compacted to ground surface. The areas were seeded, mulched and watered on a regular basis to ensure vegetative growth.

2.2 Multi-Layer Cover Construction

The existing ground surface was cleared of vegetation and debris. The vegetation was cut at ground surface. Miscellaneous debris including scrap wood, metal and plastic was temporarily stored inside the former Anniston Ironworks Building. Concrete floor slabs remaining from demolition activities were left in place.

A multi-layer soil cover extension was constructed in those areas that will not be used for vehicular traffic in accordance with the specifications detailed in the IMWP. The soil cover included non-woven geotextile or high-density polyethylene (HDPE) geomembrane at the base. In areas where the PCB concentrations were less than 500 mg/Kg, a 6 ounce per square yard (oz./sy) non-woven geotextile was placed over existing ground surface and covered with a minimum 14 inches of soil from the off-site borrow source. In areas where PCB concentrations were greater than 500 mg/Kg, a 40-mil HDPE geomembrane was placed over the existing ground surface and covered with a minimum 14 inches of soil from the off-site borrow source. The IMWP specified installation of a non-woven geotextile fabric over the HDPE geomembrane. Based on the performance specifications of the HDPE geomembrane, it was decided that the HDPE geomembrane would be sufficient to meet the objective of the interim measure. Therefore, the non-woven geotextile was not installed over the HDPE geomembrane. The limits of the multi-layer soil cover are shown on the As-Built North Side Cover Extension, Figure 1. Figure 4 of the IMWP shows the proposed cover types and limits. During construction, the

limits of the HDPE geomembrane were extended to facilitate placement. In addition, the soil cover was installed on the southwest corner of the intersection of west 10th Street and Clydesdale Avenue. In the IMWP, an asphalt multi-layer cover was proposed for this area. However, as the area is not used for vehicular traffic, the soil cover was substituted for the asphalt cover.

In the IMWP, the soil cover was proposed for a small area abutting the railroad tracks southeast of Brown's Auto Repair building. This area is a steeply sloping bank of the 11th Street Ditch. It was determined that this area will be addressed under the 11th Street Ditch Removal Action and, therefore, the soil cover was not installed.

A minimum 14-inch compacted layer of soil was placed to grades that maintained the pre-construction surface-water runoff directions. To minimize seepage into the former Anniston Ironworks Building, a 15 feet wide strip of HDPE geomembrane was placed on existing ground surface and 14 inches up the building walls prior to soil cover placement. In addition, the soil cover was placed over the lower half of Parkwin Avenue as this portion of the street was no longer in use.

As detailed in the IMWP, the soil cover extends to boundaries with the Norfolk Southern railway, West 10th Street, and Clydesdale Avenue. At these boundaries, the soil cover was tied into existing grade by excavating a 6-inch deep trench within 3 feet of the boundary and installing a geosynthetic layer 6 inches below existing ground surface. This provided 6 inches of soil cover at the tie-in with existing ground surface.

2.3 Asphalt Cover

A multi-layer asphalt cover was constructed in areas where vehicular traffic was planned. The multi-layer asphalt cover included non-woven geotextile or HDPE geomembrane as a base marker layer. In areas where the PCB concentrations were less than 500 mg/Kg, a 6 oz./sy non-woven geotextile was placed over existing ground surface and covered with 6 inches of dense graded aggregate and 3 inches of asphalt. In areas where PCB concentrations were greater than 500 mg/kg, a 40-mil HDPE geomembrane was placed over existing ground surface and covered with 6 inches of dense graded aggregate and 3 inches of asphalt. The IMWP specified installation of a non-woven geotextile fabric over the HDPE geomembrane. Based on the

performance specifications of the HDPE geomembrane, it was decided that the HDPE geomembrane would be sufficient to meet the objective of the interim measure. Therefore, the non-woven geotextile was not installed over the HDPE geomembrane. The limits of the multi-layer asphalt cover are shown on Figure 1.

The asphalt cover was placed over the formerly gravel driveway from Parkwin Avenue to the Former Anniston Iron Works Building to accommodate vehicular access. In the IMWP a soil cover was proposed for this area.

In addition, the soil cover was installed on the southwest corner of the intersection of West 10th Street and Clydesdale Avenue. In the IMWP, an asphalt multi-layer cover was proposed for this area. However, as the area is not used for vehicular traffic, the soil cover was substituted for the asphalt cover.

The asphalt cover was required to support vehicular traffic around Brown's Auto Repair garage on Clydesdale Avenue. The existing ground surface consisted of dense graded aggregate. It was necessary to place the asphalt cover so that (1) final grade matched the existing concrete floor slab of the garage, and (2) final grade promoted runoff away from the garage.

Following placement of the geosynthetic layer, the dense graded aggregate was compacted with a smooth drum roller. APAC-Alabama Inc. placed a two-layer asphalt cover consisting of a 2-inch base course overlain by a 1-inch surface course.

Existing asphalt cover located along the shoulders of West 10th Street and Clydesdale Avenue exhibited some cracking at the time of the North Side Cover Extension work. To maintain the integrity of the existing cover, a 2-inch asphalt overlay was placed in the areas shown on Figure 1. Figure 4 of the IMWP shows the proposed cover types and limits. During construction, the limits of the HDPE geomembrane were extended to facilitate placement.

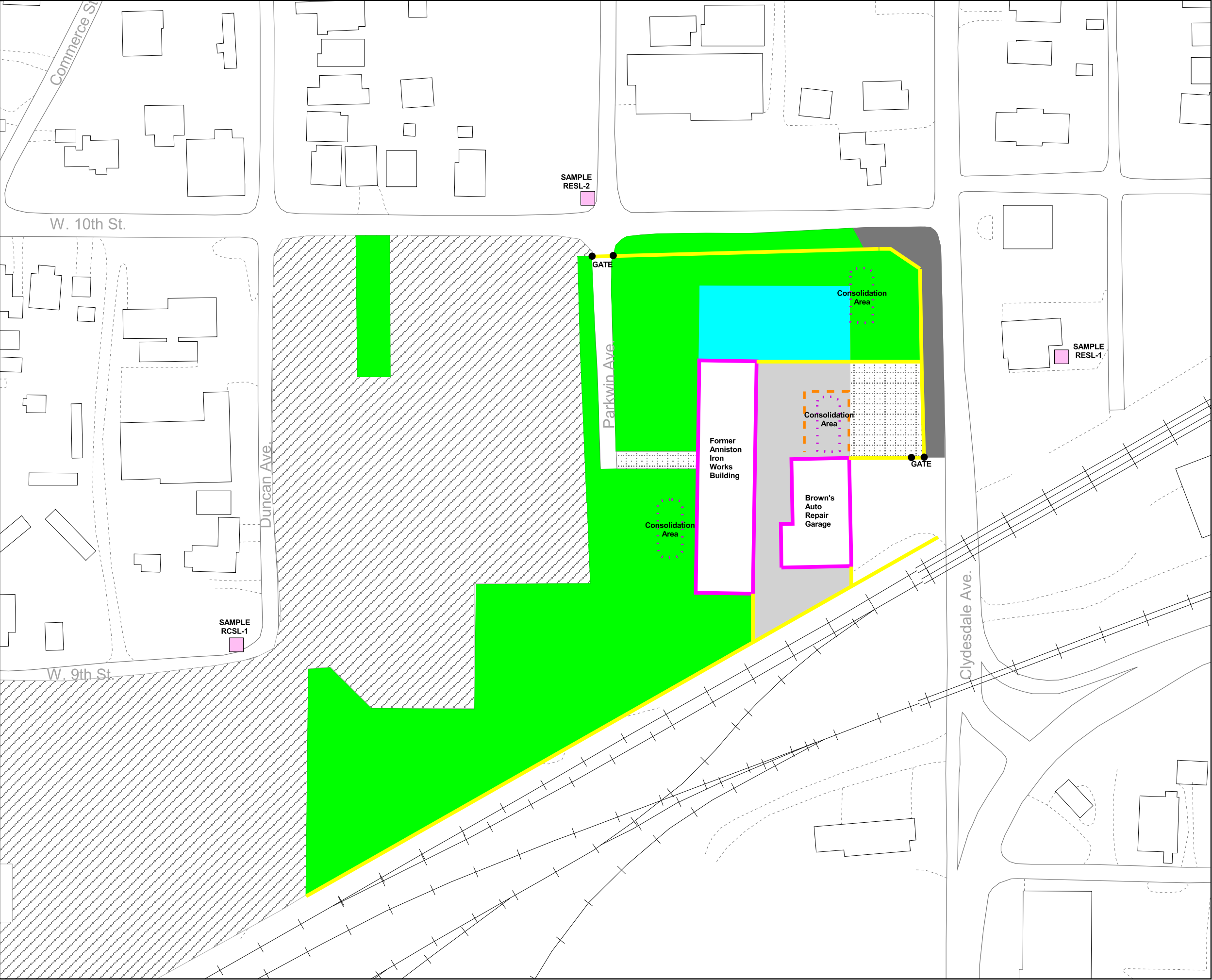
2.4 Restoration

Putman Sod & Grass Inc. restored the soil cover with applications of lime, seed, fertilizer and straw mulch.

Seeding was performed on four separate occasions as soil cover areas and the offsite borrow area were completed in late 2000. Some minor seeding and fertilizing were performed in the spring of 2001.

2.5 Fencing

A chain link security fence was installed around the newly acquired properties. Portions of the existing fence were removed to facilitate placement of the soil and asphalt covers. Upon completion of the covers, the Oxford Fence Co. replaced the fencing to control access to the property. Chain link fence was also replaced within the property boundaries to control access from Brown's Auto Repair. The approximate location of the security fence controlling access to the new properties is shown on Figure 1.



As-Built Northside
Cover Extension

Anniston, Alabama

FEATURES

- Soil & Non-woven Geotextile Multi-Layer Cover
- Soil & HDPE Geomembrane Multi-Layer Cover
- Asphalt & Non-woven Geotextile Multi-Layer Cover
- Asphalt & HDPE Geomembrane Multi-Layer Cover
- Asphalt Cover Repair Area
- Previous Covered Area
- Approximate Excavation Area
- Concrete Barriers
- Approximate Fence line
- Major Roads
- Minor Roads
- Railroads
- Buildings

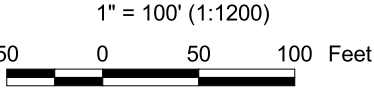
PROJECTION

US State Plane Zone: Alabama East 101 Datum: NAD83

SOURCE

Golder Associates (on-site base map)
USGS 1:24,000 Quad Maps

SCALE



LOCATION



DATE	19 June 2002	PRODUCED BY	MCG	FILE	Q:\GIS\0080 lytFig1	FIGURE	1
------	--------------	-------------	-----	------	---------------------	--------	---

APPENDIX A
SOIL SAMPLE ANALYTICAL REPORT

SEVERN

TRENT

SERVICES

900 Lakeside Drive • Mobile, AL 36693 • Tel: 334 666 6633 • Fax 334 666 6696 • www.stl-inc.com

STL Mobile

LOG NO: M0-54737A

Received: 07 SEP 00

Reported: 21 SEP 00

Mr. Mike Price
Genesis Project, Inc.
1258 Concord Road
Smyrna, GA 30080

Client PO. No.: 4503165148

Project: Northside Excavation

Sampled By: Client

Code: 164901012

Page 1

REPORT OF RESULTS

REPORT OF RESULTS		DATE/ TIME SAMPLED	
LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES		
54737A-1	RCSL-1 (0-3") COMP	08-23-00/15:44	
54737A-2	RESL-1 (0-3") COMP	08-23-00/15:27	
54737A-3	RESL-2 (0-3") COMP	08-29-00/09:54	
PARAMETER	54737A-1	54737A-2	54737A-3
Polychlorinated Biphenyls (8082)			
Aroclor-1016, ug/kg dw	<36	<35	<350
Aroclor-1221, ug/kg dw	<72	<70	<700
Aroclor-1232, ug/kg dw	<36	<35	<350
Aroclor-1242, ug/kg dw	<36	<35	<350
Aroclor-1248, ug/kg dw	<36	110	1100
Aroclor-1254, ug/kg dw	<36	490	1200
Aroclor-1260, ug/kg dw	65	910	1000
Aroclor 1268, ug/kg dw	48	910	1000
Surrogate-DCB % Rec	*F36	*F36	*F36
Surrogate-TCMX % Rec	98 %	100 %	106 %
Analysis Date	09.20.00	09.20.00	09.20.00
Analysis Time	17:15	19:42	17:52
Batch ID	4107	4107	4107
Analyst	JC	JC	JC
Percent Solids	86	87	95

Reference: SW-846 3rd edition 1986

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

SEVERN

TRENT

SERVICES

900 Lakeside Drive • Mobile, AL 36693 • Tel: 334 666 6633 • Fax 334 666 6696 • www.stl-inc.com

STL Mobile

LOG NO: M0-54737A

Received: 07 SEP 00

Reported: 21 SEP 00

Mr. Mike Price
Genesis Project, Inc.
1258 Concord Road
Smyrna, GA 30080

Client PO. No.: 4503165148

Project: Northside Excavation

Sampled By: Client

Code: 164901012

Page 2

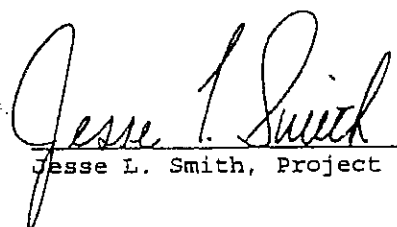
REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

54737A-4 Method Blank
54737A-5 Lab Control Standard % Recovery
54737A-6 Precision (%RPD) of LCS/LCSD

PARAMETER	54737A-4	54737A-5	54737A-6
Polychlorinated Biphenyls (8082)			
Aroclor-1016, ug/kg dw	<33	121 %	5.0 %
Aroclor-1221, ug/kg dw	<67	---	---
Aroclor-1232, ug/kg dw	<33	---	---
Aroclor-1242, ug/kg dw	<33	---	---
Aroclor-1248, ug/kg dw	<33	---	---
Aroclor-1254, ug/kg dw	<33	---	---
Aroclor-1260, ug/kg dw	<33	115 %	2.0 %
Aroclor 1268, ug/kg dw	<33	---	---
Surrogate-DCB % Rec	97 %	100 %	---
Surrogate-TCMX % Rec	76 %	91 %	---
Analysis Date	09.20.00	09.20.00	---
Analysis Time	16:38	15:24	---
Batch ID	4107	4107	---
Analyst	JC	JC	---

F36 = Surrogate recovery was outside established limits due to a coeluting matrix interference in the sample.

 10.12.00
Jesse L. Smith, Project Manager

Final Page Of Report

018263

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD



Phone: (912) 354-7858 Fax: (912) 352-0185
Phone: (850) 878-3994 Fax: (850) 878-9504
Phone: (334) 889-8833 Fax: (334) 888-8886
Phone: (813) 885-7427 Fax: (813) 885-7049

[illegible]

RECEIVED FOR LABORATORY BY:		DATE		TIME		CUSTODY INTACT		CUSTODY SEALING		871-5160 NO.		LABORATORY REMARKS	
[Signature]		9/7/00		0042		YES				M054737		60	

ORIGINAL