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## REPORT ON

# REMEDIAL INVESTIGATION ADDENDUM AREA A REMOVAL ACTION

# FOR THE

ANNISTON PCB SITE (DOCKET NO. CV-02-PT-0749-E)

# Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASTE MANAGEMENT DIVISION
ATLANTA FEDERAL CENTER
61 FORSYTH STREET S.W.
ATLANTA, GEORGIA 30303

Prepared by:

Golder Associates Inc. 3730 Chamblee Tucker Road Atlanta, Georgia 30341

May 20, 2010 Revision 0

043-3746.OU3



May 20, 2010

#### Solutia Inc.

702 Clydesdale Avenue Anniston, Alabama 36201-5328 *Tel* 256-231-8400

## SENT VIA FEDERAL EXPRESS

Ms. Pamela J. Langston Scully, P.E. Remedial Project Manager United States Environmental Protection Agency, Region IV Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, GA 30303-3104

Re: Remedial Investigation Addendum - Area A Removal Action

Remedial Investigation and Feasibility Study for Operable Unit 3

Anniston PCB Site (Docket No. CV-02-PT-0749-E)

Anniston, Alabama

Dear Ms. Langston Scully:

On behalf of Solutia Inc. (Solutia) and Pharmacia Corporation (collectively, P/S), as parties to the Partial Consent Decrees (PCD) (Docket No. CV-02-PT-0749-E), please find enclosed eight hard copies and 10 electronic copies of P/S's Remedial Investigation (RI) Addendum for the recently completed removal action conducted at Area A (as defined in the May 2009 Feasibility Study Report) on the Solutia plant site. This report was prepared in accordance with a meeting that was conducted between the United States Environmental Project Agency (EPA) and P/S on March 26, 2010 to discuss finalizing the RI Report and Feasibility Study for Operable Unit 3. Pursuant to this meeting, P/S proposed to conduct additional delineation activities and perform an immediate removal action to address principal threat waste material identified near RI sample location SSRI-11 (within Area A). The scope of work included conducting delineation sampling and a limited removal action within Area A on the plant site. This RI Addendum Report presents the methods, procedures, and findings of the sampling and removal action activities.

Please do not hesitate to contact me at 256-231-8404 with any questions or comments that you may have regarding this matter.

Sincerely,

E. Gayle Macolly

Manager, Remedial Projects

cc: Mr. Jeffery Kitchens (ADEM)

Mr. G. Douglas Jones, Esq.

Mr. Thomas Dahl

Enclosures

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## 1.0 INTRODUCTION

On behalf of Solutia Inc. (Solutia) and Pharmacia Corporation (collectively, P/S), Golder Associates Inc. (Golder) has prepared this Remedial Investigation Addendum Report (RI Addendum Report) for Operable Unit 3 (OU-3) of the Anniston PCB Site (Site). The RI Report and associated addenda have been prepared in accordance with the requirements of the Partial Consent Decree (CD) (Docket No. CV-02-PT-0749-E) between the United States Environmental Protection Agency (EPA) and P/S (EPA, 2002). The United States District Court for the Northern District of Alabama entered the CD on August 4, 2003. The RI Report and associated addenda for OU-3 summarize the results of field investigations to characterize the Solutia plant site, the closed South Landfill, and the closed West End Landfill (collectively, Facility); describe the nature and extent of contamination; review the fate and transport of contaminants; and present a summary of the Human Health Risk Assessment (HHRA).

The OU-3 RI Report, Revision 1.0 (Golder, 2009), was submitted to the EPA on March 24, 2009. The EPA provided multiple sets of comments on the RI Report, and multiple conference calls and meetings were held between the EPA and P/S to discuss and resolve outstanding issues related to the EPA's comments. These issues were resolved during a meeting held between the EPA, P/S and the Technical Special Master on March 26, 2010. As a result of this meeting, the EPA issued its final set of comments on the RI Report, which was received by P/S on April 21, 2010. P/S will respond to these comments and submit the revised RI Report (Revision 2.0) by May 21, 2010.

As part of the resolution process, P/S agreed to collect additional delineation samples and perform a limited removal action near sample location SSRI-11 (located within Area A as defined in the May 2009 Feasibility Study [FS] Report) to address principal threat waste material identified in this area. A Work Plan for these activities dated April 6, 2010 (Golder, 2010a) was submitted to the EPA, and the EPA issued its approval of the work plan on April 7, 2010. The Work Plan and the EPA approval letter are included as Appendix A. This RI Addendum Report summarizes the work completed as part of the removal action near sample location SSRI-11 (Area A), including the delineation sampling and removal activities. P/S completed the delineation sampling and removal action activities between April 7, 2010 and April 29, 2010, in accordance with the approved Work Plan. This RI Addendum Report presents the methods, procedures, and findings of the sampling and removal action activities.

# 2.0 BACKGROUND

Sample location SSRI-11 is located on the Solutia plant site west of Clydesdale Ave and north of the employee parking area, as shown on Figure 1. Samples were originally collected at SSRI-11 in conjunction with the RI program. A primary surface sample and field duplicate sample were collected from the 0 to 6-inch depth interval, while a depth sample was collected from this location at 3 to 4 feet below ground surface (bgs). Polychlorinated biphenyls (PCBs) were detected in the primary surface sample at an estimated (i.e., "J" laboratory qualifier) concentration of 930 milligrams per kilogram (mg/kg), greater than the principal threat waste threshold of 500 mg/kg. The PCB concentration for the field duplicate surface soil sample was 154 mg/kg. The depth sample showed a PCB concentration of 1.89 "J" mg/kg, thereby providing vertical delineation of the principal threat waste material at 3 feet bgs. In the March 26, 2010 meeting, the EPA indicated that the excavation of principal threat waste would likely be required in this area (Area A, adjacent to sample location SSRI-11) and should be included as an alternative or a component of other alternatives in the FS. To address this issue, P/S requested authorization to proceed with the removal as part of the removal action agreement under the CD, and the EPA concurred.

## 3.0 SCOPE OF WORK

Historical sample location SSRI-11 (RI sampling point) was marked in the field by Taylor Land Surveying, Inc., a registered land surveyor, based on known survey coordinates (i.e., global positioning system [GPS] data). Four soil samples (SSRI-11-N-10, SSRI-11-S-10, SSRI-11-E-10, and SSRI-11-W-10) were initially collected around the existing SSRI-11 sample point in the four cardinal directions (i.e., north [N], south [S], east [E], and west [W]) to delineate the lateral extent of the principal threat waste material. The samples were collected from 0 to 6 inches bgs (surface samples) at the center face points of an initial 20-foot by 20-foot grid surrounding the SSRI-11 sample location (i.e., stepping out ten feet in each cardinal direction from the original sample location). The sample locations are shown on Figure 1.

The samples were field screened for PCBs using immunoassay screening techniques (EPA method 4020) at a concentration range from 50 mg/kg to 500 mg/kg. Based on the field screening results (i.e., greater than or less than 500 mg/kg), additional surface samples were collected around the SSRI-11 sample location to determine the lateral extent of the principal threat waste. Typically, samples were collected in five-foot increments from the original delineation sample locations. This process was continued until the four boundaries (N, S, E and W) were determined based on field screening results that indicated PCB concentrations less than 500 mg/kg. These field screening results, as shown on Table 1, were used to determine the extent of the excavation. Additionally, the four quadrant samples used to determine the final limits of principal threat waste in each cardinal direction were submitted for laboratory analysis of total PCBs by EPA Method 8082 (Aroclors) and by EPA Method 680 (homolog groups). During the delineation sampling, the EPA requested at least one additional vertical sample be collected from the 3 to 4-foot depth interval to confirm the original SSRI-11 depth sample result. As shown on Figure 1, this sample was collected at SSRI-11-W-10-3. Field screening indicated that this sample contained PCBs at less than 50 mg/kg.

Once the extent of the principal threat waste material was believed to have been determined using field screening results (SSRI-11-N-10, SSRI-11-S-10, SSRI-11-E-5, and SSRI-11-W-15), Allan Hall Excavating used a backhoe to excavate an approximate 20-foot by 20-foot area to approximately three feet bgs. The depth of the excavation was based on the results from the SSRI-11 and SSRI-11-W-10-3 depth samples. While completing the excavation activities, the area was observed and controlled to prevent unauthorized access. All excavated material was placed in secured and lined rolloffs for transport to and disposal at the Chemical Waste Management's Toxic

Substance Control Act (TSCA)-approved landfill facility located in Emelle, Alabama. Due to the limited excavation that was performed and the methods used, dust monitoring during the excavation activities was determined to be unnecessary. Best management practices (BMPs) were employed to prevent direct contact with impacted soil and prevent soil erosion. To prevent contact with the ground surface, excavated soil was directly loaded into the lined rolloffs. Once completed, the excavation was backfilled with clean fill material and graded similar to the surrounding area. Sod was placed on the regarded area to prevent erosion of the soil fill material. The soil backfill material was acquired from Austin Enterprises in Dearmanville, Alabama; a source previously used by P/S for the Residential Removal Program. Field screening of the backfill material for PCBs was conducted prior to using the material at the Site. The field screening results, using EPA Method 4020 (included in Appendix B), indicate that the material contains less than 1 mg/kg of PCBs.

After completing the excavation activities described above and upon receipt of the laboratory analytical data, P/S noted that the sample collected at the southern boundary of the excavation (SSRI-11-S-10) contained PCBs greater than 500 mg/kg. It was determined that the screening results for SRI-11-W-10 (> 500 mg/kg) and SSRI-11-S-10 (< 500 mg/kg) were inadvertently switched during the screening process. As a result, further delineation was performed both laterally (SSRI-11-S-15) and vertically (SSRI-11-S-15-3) to determine the extent of principal threat waste. Based on field screening and laboratory testing results, these samples contain PCBs at less than 500 mg/kg. Therefore, additional excavation was performed using the methods described above to remove the additional 20-foot by 5-foot area of principal threat waste identified just south of the initial excavation area. These new excavation limits extended from SSRI-11-S-10 to SSRI-11-S-15 (refer to Figure 1 for final excavation limits). Again, the area was backfilled with clean soil fill (same source as above) and sod was placed to prevent erosion of these soils.

As shown on Figure 1, the final excavation limits were determined to be ten feet north, 15 feet south, five feet east, and 15 feet west of sample SSRI-11, producing an approximate 25 feet (north-south) by 20 feet (east-west) by 3 feet deep excavation. The corresponding calculated excavation volume was 55 cubic yards (in place). PCB-impacted soil was excavated and transported under hazardous waste manifest in five secure, lined rolloff containers to the Chemical Waste Management TSCA-approved landfill facility located in Emelle, Alabama. The waste manifests are included in Appendix C. Photographs of the source removal are included in Appendix D.

## 4.0 SUMMARY OF RESULTS

PCB screening results for the initial soil samples SSRI-11-N-10 and SSRI-11-S-10 were less than 500 mg/kg, and the result for SSRI-11-E-10 was less than 500 mg/kg. However, the screening result for SSRI-11-W-10 was greater than 500 mg/kg. Based on these screening results, corresponding step-in or step-out samples were obtained for additional screening in an attempt to refine the excavation limits. The screening results for samples SSRI-11-E-5 (5 foot step-in) and SSRI-11-W-15 (5 foot step-out) were both less than 500 mg/kg, thus providing the east and west boundaries of the excavation, respectively. Samples SSRI-11-NW-5 and SSRI-11-SW-5 (located within the limits of the excavation) both screened greater than 500 mg/kg, confirming the presence of principal threat waste at the SSRI-11 location. A vertical delineation depth sample collected at the SSRI-11-W-10 location (SSRI-11-W-10-3) screened for PCBs at less than 50 mg/kg. Based on the screening results, five samples that represented the proposed limits (both lateral and vertical) of excavation were submitted to the laboratory for PCB analyses including: SSRI-11-N-10, SSRI-11-S-10, SSRI-11-E-5, SSRI-11-W-15, and SSRI-11-W-10-3.

The results of the laboratory analyses are included on Table 1 and shown on Figure 1. Laboratory analyses indicated the following:

- SSRI-11-N-10 total PCBs by Aroclor (10.6 mg/kg) and by homolog group (3.5 J mg/kg)
- SSRI-11-S-10 total PCBs by Aroclor (1,130 mg/kg) and by homolog group (300.7 mg/kg)
- SSRI-11-E-5 total PCBs by Aroclor (113 mg/kg) and by homolog group (16.6 J mg/kg)
- SSRI-11-W-15 total PCBs by Aroclor (8 mg/kg) and by homolog group (4.6 J mg/kg)
- SSRI-11-W-10-3 total PCBs by Aroclor (non detect) and by homolog group (non detect)

These results generally correlated with the respective screening results and confirmed the limits of excavation with the exception of the SSRI-11-S-10 sample. The laboratory results for this sample were greater than 500 mg/kg as indicated above. It was subsequently determined that the screening results for SRI-11-W-10 (> 500 mg/kg) and SSRI-11-S-10 (< 500 mg/kg) were inadvertently

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switched during the screening process. Due to the laboratory result observed for SSRI-11-S-10, additional sampling was conducted to the south of SSRI-11-S-10. Two samples were collected including a horizontal delineation sample SSRI-11-S-15 (5 foot step-out) and an additional depth sample SSRI-11-S-15-3 collected from 3 to 4 feet bgs. Field screening results for both samples indicated PCB concentrations less than 50 mg/kg.

The results of the laboratory analyses indicated the following:

- SSRI-11-S-15 total PCBs by Aroclor (37 mg/kg) and by homolog (8.4 J mg/kg)
- SSRI-11-S-15-3 total PCBs by Aroclor (0.03 J mg/kg) and by homolog (0.001 J mg/kg)

These results, in conjunction with those described above, were used to define the limits of the removal action excavation. Laboratory data are summarized on Table 1, and the laboratory reports are provided in Appendix B. All associated sample locations are shown on Figure 1.

# 5.0 DATA VALIDATION

In accordance with the Site-Wide Quality Assurance Project Plan (Arcadis, 2008), Level II data packages were requested from the laboratory for all analyses, and Level II data validation was performed for the samples associated with the Area A delineation sampling. As described in previous sections, delineation sampling was conducted by collecting step-in and step-out soil samples to delineate the extent of principal threat waste (greater than 500 mg/kg) in the vicinity of RI sample SSR-11. A portion of the samples (i.e., bounding samples) collected and field screened were submitted to the laboratory for additional testing as shown below.

Sample ID	Description	PCB Analyses
SS1-11-N-10	Soil sample	Aroclors and homolog groups
SS1-11-S-10	Soil sample	Aroclors and homolog groups
SS1-11-E-5	Soil sample	Aroclors and homolog groups
SS1-11-W-15	Soil sample	Aroclors and homolog groups
SS1-11-W-10-3	Soil sample	Aroclors and homolog groups
SS1-11-S-15	Soil sample	Aroclors and homolog groups
SS1-11-S-15-3	Soil sample	Aroclors and homolog groups

All holding times were met for sample preparation and analysis. Surrogate recoveries for tetrachloro-m-xylene (TCX) were achieved for undiluted samples and quality control samples, and the surrogate recovery for decachlorobiphenyl (DCB) could not be determined due to the presence of Aroclor-1268 in the samples. Method blanks did not indicate the presence of PCBs as Aroclors or as homolog groups. As this event was conducted in conjunction with additional soil sampling at the West End Landfill, quality control samples collected for the West End Landfill were used to assess the sampling and testing procedures for this sampling event. One field blank and one rinsate blank were collected and analyzed for PCBs by Aroclor and homolog methods. The results for the field and rinsate blanks were non detect for both Aroclors and homolog groups. Analytical results for several Aroclors and homologs were reported at concentrations less than the laboratory reporting limits. These positive results, reported below the laboratory reporting limits, were qualified as estimated "J" values.

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# 6.0 CONCLUSIONS

The delineation sampling and removal action excavation activities were conducted in accordance with the Work Plan for Removal Action at Area A (Golder, 2010a), dated April 6, 2010 and approved by the EPA on April 7, 2010. Results of horizontal delineation samples and vertical delineation samples were used to establish the excavation limits around surface sample location SSRI-11, where principal threat waste (> 500 mg/kg) had been identified during the RI. Approximately 55 cubic yards of soil were excavated and transported to the Chemical Waste Management TSCA-approved landfill facility located in Emelle, Alabama.

This RI Addendum Report summarizes methods, procedures, and findings of the limited removal action conducted to address the principal threat waste material at this location. These findings will be further discussed as part of the FS for OU-3.

# 7.0 REFERENCES

- Arcadis, 2008. Site-Wide Quality Assurance Project Plan for the Anniston PCB Site (Revision 5.0), September 2008.
- Golder, 2009. Remedial Investigation for Operable Unit 3 for the Anniston PCB Site, Revision 1.0, March 2009.
- Golder, 2010a. Work Plan for Removal Action at Area A, Remedial Investigation and Feasibility Study for Operable Unit 3, Anniston PCB Site, April 2010.
- USEPA, 2002a. United States of America v. Pharmacia Corporation (p/k/a Monsanto Company) and Solutia Inc. Civil Action No. CV-02-PT-0749-E. October 2002.

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TABLE 1
AREA A LABORATORY RESULTS
ANNISTON PCB SITE - OPERABLE UNIT 3

	units	SSRI-11-N-10	SSRI-11-E-10	SSRI-11-E-5	SSRI-11-W-10	SSRI-11-W-10-3	SSRI-11-W-15	SSRI-11-S-10	SSRI-11-S-15	SSRI-11-S-15-3	SSRI-11-NW-5	SSRI-11-SW-
		Horizontal		Horizontal		Vertical	Horizontal		Horizontal	Vertical		
		soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Screening												
	mg/kg	<50	>50	>50	>50 (3)	<50	>50	<50 <sup>(3)</sup>	<50	<50	>50	>50
	mg/kg	<500	<500	< 500	>500 (3)	<500	<500	<500 <sup>(3)</sup>	<500	<500	>500	>500
PCB Aroclor Results												
Aroclor 1016	mg/kg	ND	500	ND	255	ND	ND	ND	ND	ND		
Aroclor 1221	mg/kg	ND	205	ND	122	ND	ND	ND	ND	ND	22	
Aroclor 1232	mg/kg	ND	<del></del>	ND	2	ND	ND	ND	ND	ND		
Aroclor 1242	mg/kg	ND	<u>we</u> r	ND	5 <u>471</u> 2	ND	ND	ND	ND	ND	265	22
Aroclor 1248	mg/kg	ND		ND		ND	ND	ND	ND	ND		-
Aroclor 1254	mg/kg	1.2	<u>100-1</u> 2	37	5 <u>#\$1</u> #	ND	2.1	510	11	0.0096 J	반면	124
Aroclor 1260	mg/kg	2.5		43	:	ND	2.7	410	14	0.011 J		
Aroclor 1268	mg/kg	6.9	<del></del>	33	1991	ND	3.2	210	12	0.005 J	#8	j <del>e</del>
TOTAL	mg/kg	10.6		113	3 <del>44</del> 3	ND	8	1130	37	0.0256 J		
PCB Homolog Results												
Monochlorobiphenyl	mg/kg	ND	-	ND		ND	ND	ND	ND	ND		
Dichlorobiphenyl	mg/kg	ND	<u>199</u> ;	ND	522	ND	ND	ND	ND	ND	<u> 1968</u> g	184
Trichlorobiphenyl	mg/kg	ND		0.018 J		ND	0.0058 J	0.53	0.006 J	ND		-
Tetrachlorobiphenyl	mg/kg	0.017 J	#	0.48	1861	ND	0.14	17	0.2	ND	## H	J <del>.</del>
Pentachlorobiphenyl	mg/kg	0.12		3.5	1	ND	0.73	83	1.4	ND		
Hexachlorobiphenyl	mg/kg	0.24	<del>-</del> H	5.9		ND	1	110	2.2	0.0011 J	<del>18</del>	1 <del>80</del>
Heptachlorobiphenyl	mg/kg	0.13	-	3.6	5 <b></b>	ND	0.64	57	1.4	ND		
Octachlorobiphenyl	mg/kg	0.39	W.	1.9	CERES	ND	0.49	20	0.92	ND	- <del> </del>	-
Nonachlorobiphenyl	mg/kg	0.71	<del>-</del>	1.1	520	ND	0.064 J	5.5	0.73	ND	**	(200)
DCB Decachlorobiphenyl	mg/kg	1.9	0 50 50 50 50 50 50 50 50 50 50 50 50 50	0.052 J	2000	ND	1.5	7.7	1.5	ND		
TOTAL	mg/kg	3.507 J	202	16.55 J		ND	4.5698 J	300.73	8.356 J	0.0011 J	220	

#### Notes

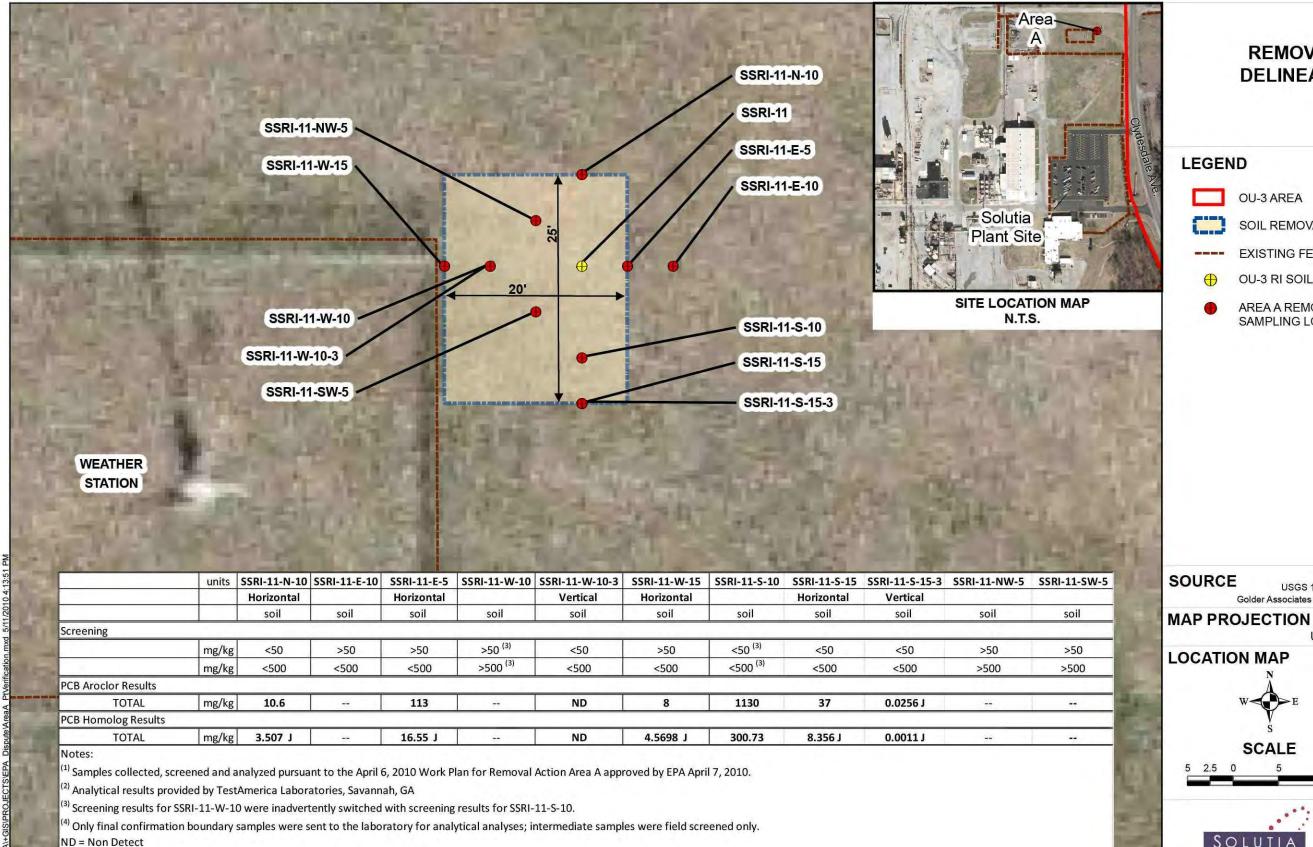
ND = Non Detect

<sup>(1)</sup> Samples collected, screened and analyzed pursuant to the April 6, 2010 Work Plan for Removal Action Area A approved by EPA April 7, 2010.

<sup>(2)</sup> Analytical results provided by TestAmerica Laboratories, Savannah, GA

<sup>(3)</sup> Screening results for SSRI-11-W-10 were inadvertently switched with screening results for SSRI-11-S-10.

<sup>(4)</sup> Only final confirmation boundary samples were sent to the laboratory for analytical analyses; intermediate samples were field screened only.



mg/kg = milligrams per kiligram

J = Estimated Value

N = North

S = South

E = East

W = West

NW = Northest

SW = Southwest

# **AREA A REMOVAL ACTION AND DELINEATION SAMPLING**

# **LEGEND**

OU-3 AREA



SOIL REMOVAL AREA



**EXISTING FENCE** 



OU-3 RI SOIL SAMPLE LOCATION

AREA A REMOVAL ACTION CONFIRMATION SAMPLING LOCATION

SOURCE

USGS 1:2,400 Quad Maps Golder Associates (on-site base map) ZONE

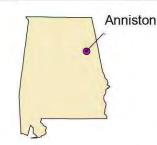
Alabama East 101

US State Plane

DATUM NAD83

# **LOCATION MAP**









PRODUCED BY: CHECKED BY: REVIEWED BY: TIR BDJ SJM DATE: FIGURE NO. PROJECT NO: 05/06/10 0433746OU3

# APPENDIX A

Work Plan for Removal Action at Area A and Approval letter from the EPA



April 6, 2010

Solutia Inc.
702 Clydesdale Avenue
Anniston, Alabama 36201-5328
Tel 256-231-8400

# SENT VIA EMAIL AND FEDERAL EXPRESS

Ms. Pamela J. Langston Scully, P.E. Remedial Project Manager United States Environmental Protection Agency Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, GA 30303-3104

Re: Work Plan for Removal Action at Area A

Remedial Investigation and Feasibility Study for Operable Unit 3

Anniston PCB Site (Docket No. CV-02-PT-0749-E)

Anniston, Alabama

Dear Ms. Langston Scully:

Please find enclosed a work plan for conducting delineation and removal activities at the Anniston PCB Site (Site) for Operable Unit 3 (OU-3). This work plan was prepared in accordance with a meeting that was conducted between the United States Environmental Protection Agency (EPA) and Pharmacia Corporation / Solutia Inc. (collectively, P/S) on March 26, 2010 to discuss finalizing the Remedial Investigation (RI) Report and Feasibility Study (FS) for OU-3. Pursuant to this meeting, P/S propose to conduct additional delineation activities and perform an immediate removal action to address known principal threat waste present at the Site. The scope of work includes conducting delineation sampling and a limited removal action within Area A on the plant site.

Please do not hesitate to contact me at 256-231-8404 with any questions or comments that you may have regarding this matter. Please let us know if this work plan is acceptable to the EPA.

Sincerely,

E. Gayle Macolly

Manager, Remedial Projects

cc: Mr. Jeffery W. Kitchens (ADEM)

Mr. G. Douglas Jones, Esq.

Mr. Thomas Dahl



# Work Plan for Removal Action at Area A

# Introduction

A meeting was conducted between the United States Environmental Protection Agency (EPA) and Pharmacia Corporation/Solutia Inc. (collectively, P/S) on March 26, 2010 to discuss finalizing the Remedial Investigation (RI) Report and Feasibility Study (FS) for Operable Unit 3 (OU-3) at the Anniston PCB Site (Site). Pursuant to this meeting, P/S propose to conduct a limited removal action in the vicinity of soil sample location SSRI-11 located within Area A, as identified in the May 2009 FS Report. The following provides a brief scope of work summarizing the background, methods and procedures, schedule and reporting for the work to be performed. The location of the proposed work is shown on Figure 1.

## Background

The sample location for SSRI-11 is located on the plant site west of Clydesdale Ave and north of the employee parking area, as shown on Figure 1. Three samples were originally collected at SSRI-11 in conjunction with the RI program, a surface soil sample and duplicate and a depth sample. The surface soil samples were collected from the 0 to 6 inch depth interval, while the depth sample was collected from 3 to 4 feet below ground surface. Polychlorinated biphenyls (PCBs) were detected in the primary surface sample at an estimated (i.e., "J" laboratory qualifier) concentration of 930 milligrams per kilogram (mg/kg), which is greater than the principal threat waste threshold of 500 mg/kg. The duplicate surface soil sample PCB concentration was 154 mg/kg. The depth sample showed low-level PCB concentrations of 1.89J mg/kg, thereby providing vertical delineation of the principal threat waste at three feet below ground surface. EPA indicated that excavation of principal threat waste would likely be required in this area and should be included as an alternative or a component of other alternatives. P/S requested permission to go forward with the removal as part of the removal action agreement under the Partial Consent Decree, and the EPA concurred.

Based on discussions during the March 26, 2010 meeting with the EPA, P/S propose to conduct delineation sampling and soil removal with off-site disposal at this sample location as an immediate removal action to address the principal threat waste material. The following describes the scope of the anticipated removal action.

## Scope of Work

Soil removal activities at Area A will be implemented specifically to address the elevated PCB concentration observed in the surface soil at sample location SSRI-11. The historical sample location will be marked in the field, and an exclusion zone (EZ) will be created using high visible flagging. Prior to excavation, four soil samples will initially be collected around the existing SSRI-11 location to delineate the extents of the principal threat waste material. The samples will be collected at the center face points of a 10-feet by 10-feet grid surrounding the initial SSRI-11 sample location at a depth of 0 to 6 inches below ground surface (i.e., stepping out five feet in each cardinal direction from the original sample location). If any of these initial delineation samples have PCB concentrations in excess of 500 mg/kg, further sampling will be performed by extending the grid in five-foot increments in the direction of impact to delineate the principal threat waste material. All delineation samples will initially be field screened utilizing immunoassay screening techniques (EPA Method 4020) at a concentration range from 50 mg/kg to 500 mg/kg. Additionally, the four quadrant samples used to determine the final extents of principal threat waste in each direction will be submitted for laboratory analysis of total PCBs and analyzed for Aroclors by EPA Method 8082 and for homolog groups by EPA Method 680. The field screening results will be used to determine the extent of the excavation.



Once the extents of the principal threat waste material have been determined, mechanized equipment (i.e., backhoe) will be used to excavate to approximately three feet below ground surface. The depth of the excavation will terminate just above the location of the depth sample collected at SSRI-11. All excavated material will be placed in a secure lined rolloff for subsequent transport to and disposal at the Chemical Waste Management Toxic Substances Control Act (TSCA)-approved landfill facility located in Emelle, Alabama. Dust monitoring will be conducted during the excavation activities, and best management practices (BMPs) will be employed to control erosion. BMPs will include the use of plastic sheeting beneath impacted soil that is staged on the ground surface and the use of silt fence around excavations that remain open overnight. Once complete, the limits of the excavation with be surveyed with a global positioning system, and the excavation will then be backfilled with clean fill material, graded similar to the surrounding area, and grassed. Hazardous waste manifests will be maintained and provided to EPA along with the soil sampling results as described above.

## General

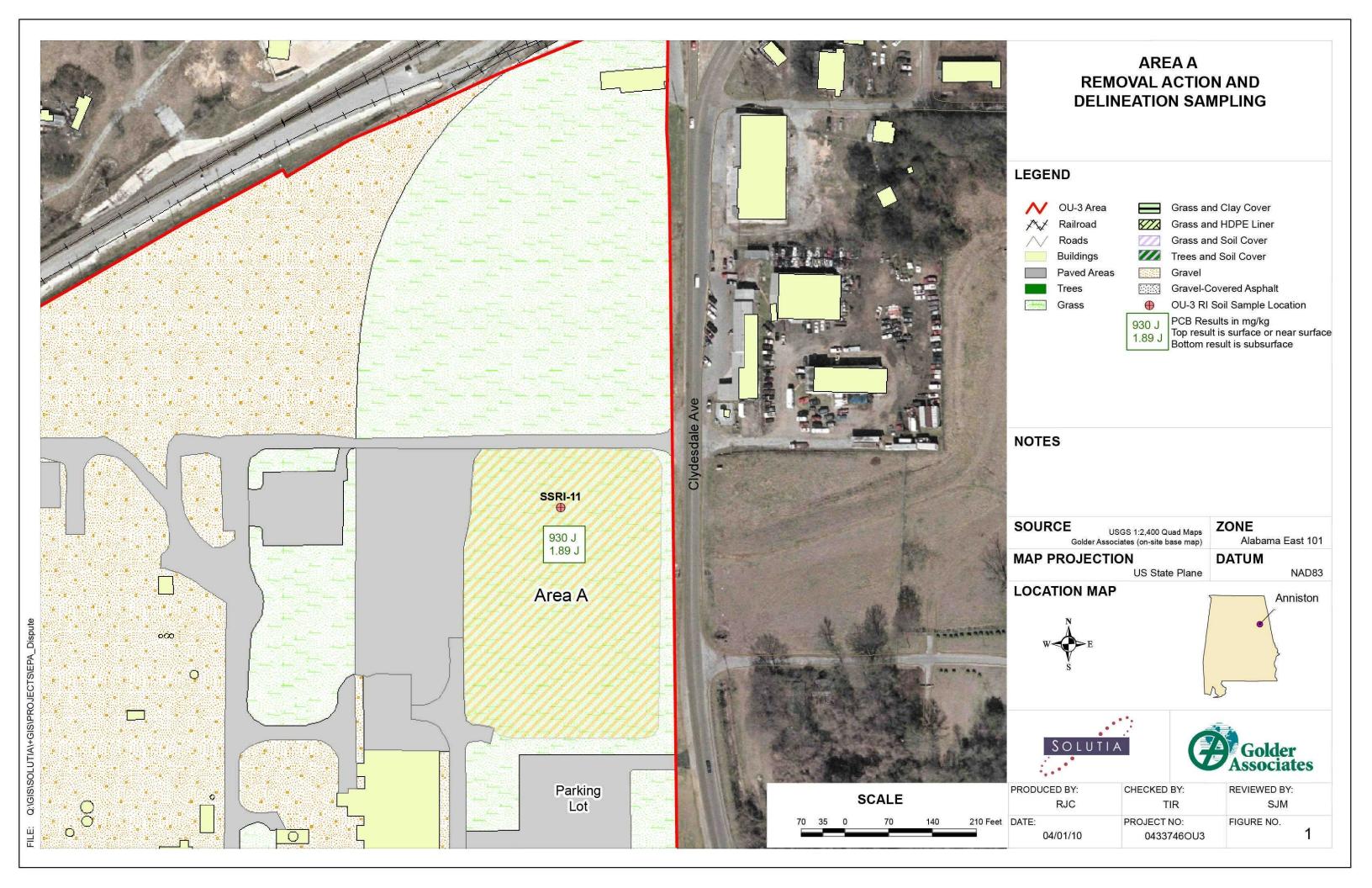
While implementing the above removal activities, the following general provisions will be adhered to as applicable to each of the activities:

- The Site-wide Quality Assurance Project Plan, Revision 5.0, will be adhered to throughout the field effort (September 2008).
- The OU-3 Field Sampling Plan, Revision 2.0, will be adhered to throughout the field effort (October 2005).
- The Site-wide Health and Safety (H&S) Plan will be adhered to throughout the field effort. H&S
  meetings will be held daily for all members of the field team (June 2004).
- Proper personal protective equipment (PPE) (e.g., nitrile gloves) will be worn to limit the potential
  of direct contact with impacted media during the above described intrusive activities.
- Dust monitoring using a respirable dust monitor (e.g., Mini-ram) will be performed during intrusive
  activities that could potentially disturb impacted soil creating fugitive dust emissions.
- All equipment (i.e., mechanized or hand tools) will be decontaminated following contact with potential impacted media.

# Schedule and Reporting

Removal action field work is scheduled to commence Wednesday, April 7<sup>th</sup> and continue through Thursday, April 8, 2010. Prior to initiating these activities, P/S's surveyor will be on Site Tuesday, April 6<sup>th</sup> to locate the sample point, SSRI-11. P/S will coordinate EPA oversight as required during the activities. As per the Site-Wide QAPP, Level II data packages will be requested from the laboratory for all analyses, and Level II data validation will be performed for the samples analyzed as described herein. Upon completion of the data validation, a Removal Action Report will be prepared presenting the findings of the sampling and documenting the removal activities. The report will include a description of the work performed, tabulated analytical results, a summary of the data validation, hazardous waste manifests, and recommendations for further action, if necessary. The Removal Action Report will be submitted to the Agency no later than 30 days following receipt of the validated laboratory reports and completion of the field activities. P/S intend to analyze the samples using a rush turn-around schedule such that P/S can conduct a conference call with the EPA as soon as practical following completion of the field work to reach agreement regarding completion of the above-described work activities prior to finalizing the FS Report in accordance with the schedule previously established by the EPA.







# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

April 7, 2010

4SD-SRB

Ms. E. Gayle Macolly Manager, Remedial Projects Solutia, Inc. 702 Clydesdale Avenue Anniston, Alabama 36201-5328

SUBJ:

Work Plan for Removal Action at Area A

Remedial Investigation/Feasibility Study Reports

Operable Unit 3, Anniston PCB Site, Anniston, Alabama

EPA CERCLA ID

# ALD000400123

EPA RCRA ID

# ALD004019048

Dear Ms. Macolly:

The U.S. Environmental Protection Agency (EPA) approves of the Work Plan for a Removal Action at Area A dated April 6, 2010, to delineate and remove principal threat waste at Operable Unit 3 at the Anniston PCB Site, Anniston, Alabama. This removal work will be done as part of Solutia's response obligations under the Partial Consent Decree ("PCD"), entered by the United States District Court for the Northern District of Alabama on August 4, 2003, the Administrative Order on Consent for Removal Action ("Removal Order"), Exhibit C to the PCD, and the Non-Time Critical Removal Agreement ("NTC Removal Agreement"), Exhibit G to the PCD, for the Anniston PCB Site. Solutia may commence such work, subject to EPA oversight.

If you have any questions or concerns, please contact me at (404)562-8935.

Sincerely,

Pamela J. Langston Scully, P.E

Remedial Project Manager Superfund Remedial Branch

cc:

Ms. Julie Peshkin, Monsanto

Mr. G. Douglas Jones, Esq.

Mr. Thomas Dahl

Mr. Bertrand Thomas, TA

Mr. David Baker, CAG

Mr. William Weinischke, USDOJ

# APPENDIX B

**Laboratory Results** 



# ANALYTICAL REPORT

Job Number: 680-56602-3

Job Description: Anniston Landfill Site (SSR1-11-S-10 RX)

For:

Golder Associates Inc. 3730 Chamblee Tucker Road Atlanta, GA 30341

Attention: Mr. Tim Richards

Lideja grizia

Approved for release Lidya Gulizia Project Manager I 4/30/2010 4:32 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
04/30/2010

cc: Mr. Steve Moeller

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q



## Job Narrative 680-56602-3 / Final Report (Revised 4/30/10)

#### Receipt

All samples were received in good condition within temperature requirements on April 9, 2010.

Sample SSRI-11-S-10 was relogged for PCB analysis per client request. Two containers were submitted for PCB analysis for this sample and these were logged in the laboratory database as container A and B per standard log-in procedure. At the client's instruction, each container received for this sample was subsampled twice for PCB analysis and reported under a discrete laboratory identification number.

#### GC Semi VOA

Method(s) 8081A\_8082: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: SSR1-11-S-10 (A-1) (680-56602-10), SSR1-11-S-10 (A-2) (680-56602-11), SSR1-11-S-10 (B-1) (680-56602-12), SSR1-11-S-10 (B-2) (680-56602-13).

No other analytical or quality issues were noted.

#### **General Chemistry**

No analytical or quality issues were noted.

#### **Organic Prep**

No analytical or quality issues were noted.

#### Comments

A preliminary report was issued on April 16, 2010 with final results for samples 680-56602-10 and 680-56602-11 and preliminary, uncorrected results for moisture for samples 680-56602-12 and 680-56602-13.

The report issued on 4/19/10 presented the final results for all samples corrected for moisture.

The report was revised on 4/30/10 to remove the p qualifier flags from the Arochlor 1248 results for samples SSR1-11-S-10 (B-1) (680-56602-12) and SSR1-11-S-10 (B-2) (680-56602-13).

No other additional comments.

# **METHOD SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-3

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081	A_8082
Ultrasonic Extraction	TAL SAV		SW846 3550B
Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography	TAL SAV	SW846 8081	B/8082A
Ultrasonic Extraction	TAL SAV		SW846 3550C

#### Lab References:

TAL SAV = TestAmerica Savannah

## Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

# METHOD / ANALYST SUMMARY

Client: Golder Associates Inc. Job Number: 680-56602-3

Method	Analyst	Analyst ID
SW846 8081A_8082	Kellar, Joshua	JK
SW846 8081B/8082A	Kellar, Joshua	JK

# **SAMPLE SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-3

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
680-56602-10	SSR1-11-S-10 (A-1)	Solid	04/07/2010 1400	04/09/2010 0927
680-56602-11	SSR1-11-S-10 (A-2)	Solid	04/07/2010 1400	04/09/2010 0927
680-56602-12	SSR1-11-S-10 (B-1)	Solid	04/07/2010 1400	04/09/2010 0927
680-56602-13	SSR1-11-S-10 (B-2)	Solid	04/07/2010 1400	04/09/2010 0927

# **SAMPLE RESULTS**

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID: SSR1-11-S-10 (A-1)

Lab Sample ID: 680-56602-10

Date Sampled: 04/07/2010 1400 Client Matrix: Solid % Moisture: 17.0 Date Received: 04/09/2010 0927

# 8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: 8081A\_8082 Preparation: 3550B

Dilution: 625

04/16/2010 1315 Date Analyzed: 04/16/2010 1004 Date Prepared:

Analysis Batch: 680-165922

Prep Batch: 680-165869

Instrument ID: Initial Weight/Volume:

SGZ 15.02 g Final Weight/Volume: 5 mL Injection Volume: 2 uL

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<25000		2200	25000
PCB-1221		<50000		3600	50000
PCB-1232		<25000		2500	25000
PCB-1242		<25000		2100	25000
PCB-1248		<25000		5400	25000
PCB-1254		190000	р	1700	25000
PCB-1260		200000		5000	25000
PCB-1268		94000		1300	25000
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Tetrachloro-m-xylene		0	D	26 - 140	
DCB Decachlorobiphenyl		0	D	50 - 129	

# **Analytical Data**

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID:

SSR1-11-S-10 (A-1)

Lab Sample ID:

680-56602-10

Client Matrix:

Solid

% Moisture:

17.0

Date Sampled: 04/07/2010 1400

Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: Preparation:

Dilution:

8081A\_8082

3550B

625

Date Analyzed: Date Prepared:

04/16/2010 1315 04/16/2010 1004

Analysis Batch: 680-165922

Prep Batch: 680-165869

Instrument ID:

Initial Weight/Volume:

15.02 g 5 mL

SGZ

Final Weight/Volume: Injection Volume:

2 uL

Result Type:

SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene	0	D	26 - 140	
DCB Decachlorobiphenyl	0	D	50 - 129	

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID:

SSR1-11-S-10 (A-2)

Lab Sample ID:

680-56602-11

Date Sampled: 04/07/2010 1400 Client Matrix: % Moisture: Solid 17.0 Date Received: 04/09/2010 0927

0004A	8082 Organ	achlorina	Doctioidos	9 DC	Da ICCI
OUGIA	OUOZ UIUAI	icici ilici ilie	FRSHCIORS.	OPL.	DS ((3(.)

Method:

8081A\_8082

04/16/2010 1004

Analysis Batch: 680-165922

Instrument ID:

SGZ

Preparation: Dilution:

3550B

Prep Batch: 680-165869

Initial Weight/Volume: Final Weight/Volume:

50 - 129

15.13 g 5 mL

Date Analyzed: Date Prepared:

DCB Decachlorobiphenyl

625 04/16/2010 1332

0

Injection Volume: Result Type:

2 uL **PRIMARY** 

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<25000		2200	25000
PCB-1221		<50000		3600	50000
PCB-1232		<25000		2500	25000
PCB-1242		<25000		2100	25000
PCB-1248		<25000		5400	25000
PCB-1254		200000	р	1700	25000
PCB-1260		190000		5000	25000
PCB-1268		92000		1300	25000
Surrogate		%Rec	Qualifier	Acceptar	nce Limits
Tetrachioro-m-xylene		0	D	26 - 140	

D

# **Analytical Data**

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID:

SSR1-11-S-10 (A-2)

Lab Sample ID:

680-56602-11

Client Matrix: Solid % Moisture:

17.0

Date Sampled: 04/07/2010 1400

Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082

Analysis Batch: 680-165922

Instrument ID:

SGZ

Preparation: Dilution:

3550B

Prep Batch: 680-165869

Initial Weight/Volume: Final Weight/Volume:

15.13 g 5 mL

Date Analyzed:

625 04/16/2010 1332

Injection Volume:

2 uL

Date Prepared:

04/16/2010 1004

Result Type:

SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	0	D	26 - 140
DCB Decachlorobiphenyl	0	D	50 - 129

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID:

SSR1-11-S-10 (B-1)

Lab Sample ID:

680-56602-12

Client Matrix: Solid Date Sampled: 04/07/2010 1400 Date Received: 04/09/2010 0927

8081A_8082 Organochlorine Pes	ticides & PCBs (GC)
-------------------------------	---------------------

14.1

Method:

8081A\_8082

Analysis Batch: 680-165922

Instrument ID: SGZ

Preparation: Dilution:

3550B 625

Prep Batch: 680-165869

% Moisture:

Initial Weight/Volume: 15.25 g Final Weight/Volume:

5 mL 2 uL

Date Analyzed: Date Prepared:

04/16/2010 1350 04/16/2010 1004 Injection Volume: Result Type:

PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<24000		2100	24000
PCB-1221		<48000		3400	48000
PCB-1232		<24000		2400	24000
PCB-1242		<24000		2000	24000
PCB-1248		<24000		5200	24000
PCB-1254		170000		1600	24000
PCB-1260		170000		4800	24000
PCB-1268		87000		1200	24000
Surrogate		%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene		0	Х	26 - 140	
DCB Decachlorobiphenyl		0	X	50 - 129	

26 - 140

50 - 129

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID:

SSR1-11-S-10 (B-2)

Lab Sample ID:

Tetrachioro-m-xylene

DCB Decachlorobiphenyl

680-56602-13

Date Sampled: 04/07/2010 1400 Client Matrix: Solid % Moisture: 14.0 Date Received: 04/09/2010 0927

	8081	A_8082 Organochlorine Pesticio	des & PCBs (G0	<b>=</b> )	
Method:	8081A_8082	Analysis Batch: 680-165922	Inst	rument ID:	SGZ
Preparation:	3550B	Prep Batch: 680-165869	Initia	al Weight/Volume:	15.08 g
Dilution:	625		Fina	l Weight/Volume:	5 mL
Date Analyzed:	04/16/2010 1407		Inje	ction Volume:	2 uL
Date Prepared:	04/16/2010 1004		Res	ult Type:	PRIMARY
Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<24000		2100	24000
PCB-1221		<48000		3500	48000
PCB-1232		<24000		2400	24000
PCB-1242		<24000		2000	24000
PCB-1248		<24000		5200	24000
PCB-1254		160000		1700	24000
PCB-1260		170000		4800	24000
PCB-1268		82000		1200	24000
Surrogate	%Rec		Qualifier	Acceptance Limits	

X Χ

0

0

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID: SSR1-11-S-10 (B-1)

Lab Sample ID: 680-56602-12 Date Sampled: 04/07/2010 1400

Client Matrix: Solid Date Received: 04/09/2010 0927

Method:	8081B/8082A	Analysis Batch: 680-165922	Instru	ıment ID:	SGZ
Preparation:	3550C	Prep Batch: 680-165869	Initia	Weight/Volume:	15.25 g
Dilution:	625		Final	Weight/Volume:	5 mL
Date Analyzed:	04/16/2010 1350		Injec	ion Volume:	2 uL
Date Prepared:	04/16/2010 1004		Result Type:		PRIMARY
Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<20000		1800	20000
PCB-1221		<41000		3000	41000
PCB-1232		<20000		2000	20000
PCB-1242		<20000		1700	20000
PCB-1248		<20000		4400	20000
PCB-1254		140000		1400	20000
PCB-1260		150000		4100	20000
PCB-1268		74000		1000	20000
Surrogate		%Rec	Qualifier	Acceptar	nce Limits
DCB Decachlorobiphenyl		0	D	50 - 129	
Tetrachloro-m-xyle	ene	0	D	26 - 140	

**Analytical Data** 

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID: SSR1-11-S-10 (B-1)

Lab Sample ID: 680-56602-12 Date Sampled: 04/07/2010 1400

Client Matrix: Solid Date Received: 04/09/2010 0927

8081B/8082A Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography

 Method:
 8081B/8082A
 Analysis Batch: 680-165922
 Instrument ID:
 SGZ

 Preparation:
 3550C
 Prep Batch: 680-165869
 Initial Weight/Volume:
 15.25 g

 Dilution:
 625
 Final Weight/Volume:
 5 mL

Date Analyzed: 04/16/2010 1350 Injection Volume: 2 uL

Date Prepared: 04/16/2010 1004 Result Type: SECONDARY

Surrogate%RecQualifierAcceptance LimitsDCB Decachlorobiphenyl0D50 - 129Tetrachloro-m-xylene0D26 - 140

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID: SSR1-11-S-10 (B-2)

Lab Sample ID: 680-56602-13 Date Sampled: 04/07/2010 1400

8081B/8082A Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography

Client Matrix: Solid Date Received: 04/09/2010 0927

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL	
Date Prepared:	04/16/2010 1004		Resu	ılt Type:	PRIMARY	
Date Analyzed:	04/16/2010 1407		Injec	tion Volume:	2 uL	
Dilution:	625		Final	Weight/Volume:	5 mL	
Preparation:	3550C	Prep Batch: 680-165869	Initia	l Weight/Volume:	15.08 g	
Method:	8081B/8082A	Analysis Batch: 680-165922	Instru	ument ID:	SGZ	

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<21000		1800	21000
PCB-1221		<42000		3000	42000
PCB-1232		<21000		2100	21000
PCB-1242		<21000		1700	21000
PCB-1248		<21000		4500	21000
PCB-1254		140000		1400	21000
PCB-1260		140000		4200	21000
PCB-1268		70000		1100	21000
Surrogate		%Rec	Qualifier	Accepta	nce Limits
DCB Decachlorobiphenyl		0	D	50 - 129	
Takes black as to less		0	Б	00 440	

Client: Golder Associates Inc. Job Number: 680-56602-3

Client Sample ID: SSR1-11-S-10 (B-2)

Lab Sample ID: 680-56602-13 Date Sampled: 04/07/2010 1400

Client Matrix: Solid Date Received: 04/09/2010 0927

8081B/8082A Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography

 Method:
 8081B/8082A
 Analysis Batch: 680-165922
 Instrument ID:
 SGZ

 Preparation:
 3550C
 Prep Batch: 680-165869
 Initial Weight/Volume:
 15.08 g

 Dilution:
 625
 Final Weight/Volume:
 5 mL

 Date Analyzed:
 04/16/2010 1407
 Injection Volume:
 2 uL

Date Prepared: 04/16/2010 1004 Result Type: SECONDARY

Surrogate%RecQualifierAcceptance LimitsDCB Decachlorobiphenyl0D50 - 129Tetrachloro-m-xylene0D26 - 140

## **DATA REPORTING QUALIFIERS**

Client: Golder Associates Inc. Job Number: 680-56602-3

Lab Section	Qualifier	Description
GC Semi VOA		
	X	Surrogate is outside control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
	р	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

# **QUALITY CONTROL RESULTS**

## **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 680-165869					
LCS 680-165869/6-A	Lab Control Sample	T	Solid	3550B	
LCSD 680-165869/7-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 680-165869/5-A	Method Blank	T	Solid	3550B	
LCS 680-165869/6-A	Lab Control Sample	T	Solid	3550C	
_CSD 680-165869/7-A	Lab Control Sample Duplicate	T	Solid	3550C	
MB 680-165869/5-A	Method Blank	Т	Solid	3550C	
880-56602-10	SSR1-11-S-10 (A-1)	T	Solid	3550B	
880-56602-11	SSR1-11-S-10 (A-2)	T	Solid	3550B	
680-56602-12	SSR1-11-S-10 (B-1)	T	Solid	3550B	
880-56602-12	SSR1-11-S-10 (B-1)	T	Solid	3550C	
880-56602-13	SSR1-11-S-10 (B-2)	T	Solid	3550B	
680-56602-13	SSR1-11-S-10 (B-2)	T	Solid	3550C	
Analysis Batch:680-16592	22				
LCS 680-165869/6-A	Lab Control Sample	Т	Solid	8081A_8082	680-165869
LCSD 680-165869/7-A	Lab Control Sample Duplicate	Ť	Solid	8081A 8082	680-165869
MB 680-165869/5-A	Method Blank	Ť	Solid	8081A 8082	680-165869
_CS 680-165869/6-A	Lab Control Sample	Ť	Solid	8081B/8082A	680-165869
LCSD 680-165869/7-A	Lab Control Sample Duplicate	Ť	Solid	8081B/8082A	680-165869
MB 680-165869/5-A	Method Blank	Ť	Solid	8081B/8082A	680-165869
680-56602-10	SSR1-11-S-10 (A-1)	Ť	Solid	8081A 8082	680-165869
680-56602-11	SSR1-11-S-10 (A-2)	Ť	Solid	8081A 8082	680-165869
580-56602-12	SSR1-11-S-10 (B-1)	Ť	Solid	8081A 8082	680-165869
680-56602-12	SSR1-11-S-10 (B-1)	Ť	Solid	8081B/8082A	680-165869
680-56602-13	SSR1-11-S-10 (B-2)	Ť	Solid	8081A 8082	680-165869
580-56602-13	SSR1-11-S-10 (B-2)	Ť	Solid	8081B/8082A	680-165869

## Report Basis

T = Total

## **Surrogate Recovery Report**

## 8081A 8082 Organochlorine Pesticides & PCBs (GC)

### **Client Matrix: Solid**

		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56602-12	SSR1-11-S-10 (B-1)	0X	0D	0X	0D
680-56602-13	SSR1-11-S-10 (B-2)	0X	0D	0X	0D
MB 680-165869/5-A		66	67	60	59
LCS 680-165869/6-A		71	71	64	62
LCSD 680-165869/7-A		68	70	65	65

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	26-140
DCB = DCB Decachlorobiphenyl	50-129

## **Surrogate Recovery Report**

## 8081A 8082 Organochlorine Pesticides & PCBs (GC)

### **Client Matrix: Solid**

		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56602-10	SSR1-11-S-10 (A-1)	0D	0D	0D	0D
680-56602-11	SSR1-11-S-10 (A-2)	0D	0D	0D	0D

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	26-140
DCB = DCB Decachlorobiphenyl	50-129

## **Surrogate Recovery Report**

## 8081B/8082A Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography

### **Client Matrix: Solid**

		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56602-12	SSR1-11-S-10 (B-1)	0X	0D	0X	0D
680-56602-13	SSR1-11-S-10 (B-2)	0X	0D	0X	0D
MB 680-165869/5-A		66	67	60	59
LCS 680-165869/6-A		71	71	64	62
LCSD 680-165869/7-A		68	70	65	65

Surrogate	Acceptance Limits
DCB = DCB Decachlorobiphenyl	50-129
TCX = Tetrachloro-m-xylene	26-140

Client: Golder Associates Inc.

Job Number: 680-56602-3

Method Blank - Batch: 680-165869

Method: 8081A\_8082 Preparation: 3550B

Lab Sample ID: MB 680-165869/5-A

Solid

Client Matrix: Dilution:

Date Analyzed: 04/16/2010 1224

1.0

Date Prepared: 04/16/2010 1004

Prep Batch: 680-165869

Analysis Batch: 680-165922

Units: ug/Kg

Instrument ID: SGZ

Lab File ID:

zd16011.d

Initial Weight/Volume: 15.17 g

Final Weight/Volume: 5 mL

Injection Volume:

2 uL

Column ID:

PRIMARY

Analyte	Result	Qual	MDL	RL	
PCB-1016	<33		2.9	33	
PCB-1221	<66		4.7	66	
PCB-1232	<33		3.3	33	
PCB-1242	<33		2.8	33	
PCB-1248	<33		7.1	33	
PCB-1254	<33		2.3	33	
PCB-1260	<33		6.6	33	
PCB-1268	<33		1.7	33	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	60		26 - 140		
DCB Decachlorobiphenyl	67		50 - 129		
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	59	59 26 - 140			
DCB Decachlorobiphenyl	66		50 - 129		

Client: Golder Associates Inc. Job Number: 680-56602-3

Lab Control Sample/ Method: 8081A\_8082
Lab Control Sample Duplicate Recovery Report - Batch: 680-165869 Preparation: 3550B

LCS Lab Sample ID: LCS 680-165869/6-A Analysis Batch: 680-165922 Instrument ID: SGZ
Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16012.d

Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16012.d Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 1

 Dilution:
 1.0
 Units: ug/Kg
 Initial Weight/Volume:
 15.05 g
 g

 Date Analyzed:
 04/16/2010 1241
 Final Weight/Volume:
 5 mL
 Injection Volume:
 2 uL

 Column ID:
 PRIMARY

LCSD Lab Sample ID: LCSD 680-165869/7-A Analysis Batch: 680-165922 Instrument ID: SGZ

Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16013.d

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 15.23 g

 Date Analyzed:
 04/16/2010 1258
 Final Weight/Volume:
 5 mL

 Date Prepared:
 04/16/2010 1004
 Injection Volume:
 2 uL

Column ID: PRIMARY

% Rec. Analyte LCS LCSD Limit RPD **RPD Limit** LCS Qual LCSD Qual 43 - 136 PCB-1016 75 71 50 6 PCB-1260 53 - 133 81 74 9 50 Surrogate LCS % Rec LCSD % Rec Acceptance Limits Tetrachloro-m-xylene 65 26 - 140 DCB Decachlorobiphenyl 71 70 50 - 129 LCS % Rec LCSD % Rec Surrogate Acceptance Limits Tetrachloro-m-xylene 62 65 26 - 140 DCB Decachlorobiphenyl 71 68 50 - 129

Client: Golder Associates Inc.

Job Number: 680-56602-3

Method Blank - Batch: 680-165869

Method: 8081B/8082A Preparation: 3550C

Client Matrix:

Lab Sample ID: MB 680-165869/5-A

Solid

Dilution: 1.0

Date Prepared: 04/16/2010 1004

Date Analyzed: 04/16/2010 1224

Analysis Batch: 680-165922

Prep Batch: 680-165869

Units: ug/Kg

Instrument ID: SGZ

Lab File ID:

zd16011.d

Initial Weight/Volume: 15.17 g

Final Weight/Volume: 5 mL Injection Volume:

2 uL

Column ID:

PRIMARY

Analyte	Result	Qual	MDL	RL	
PCB-1016	<33	<33		33	
PCB-1221	<66		4.7	66	
PCB-1232	<33		3.3	33	
PCB-1242	<33		2.8	33	
PCB-1248	<33		7.1	33	
PCB-1254	<33		2.3	33	
PCB-1260	<33		6.6	33	
PCB-1268	<33		1.7	33	
Surrogate	% Rec		Acceptance Limits		
DCB Decachlorobiphenyl	67		50 - 129		
Tetrachloro-m-xylene	60		26 - 140		
Surrogate	% Rec		Acceptance Limits		
DCB Decachlorobiphenyl	66	66 50 - 129			
Tetrachloro-m-xylene	59		26 - 140		

Client: Golder Associates Inc. Job Number: 680-56602-3

Lab Control Sample/ Method: 8081B/8082A
Lab Control Sample Duplicate Recovery Report - Batch: 680-165869 Preparation: 3550C

LCS Lab Sample ID: LCS 680-165869/6-A Analysis Batch: 680-165922 Instrument ID: SGZ
Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16012.d

Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16012.d

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 15

 Dilution:
 1.0
 Units: ug/Kg
 Initial Weight/Volume:
 15.05 g
 g

 Date Analyzed:
 04/16/2010 1241
 Final Weight/Volume:
 5 mL
 g

 Date Prepared:
 04/16/2010 1004
 Injection Volume:
 2 uL
 Column ID:
 PRIMARY

LCSD Lab Sample ID: LCSD 680-165869/7-A Analysis Batch: 680-165922 Instrument ID: SGZ
Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16013.d

Client Matrix: Solid Prep Batch: 680-165869 Lab File ID: zd16013.d

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 15.23 g

 Date Analyzed:
 04/16/2010 1258
 Final Weight/Volume:
 5 mL

 Date Prepared:
 04/16/2010 1004
 Injection Volume:
 2 uL

 Column ID:
 PRIMARY

% Rec. Analyte LCS LCSD Limit RPD **RPD Limit** LCS Qual LCSD Qual 43 - 136 PCB-1016 75 71 50 6 PCB-1260 53 - 133 81 74 9 50 Surrogate LCS % Rec LCSD % Rec Acceptance Limits

 DCB Decachlorobiphenyl
 71
 70
 50 - 129

 Tetrachloro-m-xylene
 64
 65
 26 - 140

 Surrogate
 LCS % Rec
 LCSD % Rec
 Acceptance Limits

 DCB Decachlorobiphenyl
 71
 68
 50 - 129

 Tetrachloro-m-xylene
 62
 65
 26 - 140

Serial Number 025070

analysis request and chain estAmerica	OF CUSTODY RE	CO	RD	<b>X</b>	Savan	aRoche nah, GA	Avenue 31404		Website: www. Phone: (912) 3 Fax: (912) 352	354-7858		>m
HE LEADER IN ENVIRONMENTAL TESTING					) Alterna	te Labor	atory Name/Loo	cation	Phone: Fax:			
OJECT REFERENCE AMUSTON PROJECT NO.	PROJECT LOCATION (STATE)		ATRI) TYPE			9	REQUIRE	D ANALYSIS		PAGE	1	/ OF
(LAB) PROJECT MANAGER P.O. NUMBER	CONTRACT NO.	31				7				STANDA DELIVE	NRD REPO	RT O
TIM RICHARDS 845-30-8703		) INDICATE		SOLVEN	PEBS	TAOL					TE DUE	
CLOS / GOLDER TRICKAROS QUENTEMAIL	C	GRAB (G)	Ω	AIR NONAQUEOUS LIQUID (OIL, SOLVENT,)	7089	80914				DELIVE (SURC	RY IARGE)	$\mathbb{Z}_{\mathcal{A}}$
JENT ADDRESS 2730 CHAMBLES TYCKER WE !	Athora, GA	E (C) OR (WATER)	SEMISOL	DUS LIQ	prie IN		ing Zinian gering States S		<u></u>	NUMBE	R OF COOL	LERS SUBMITTED
SAMPLE SAMPLE SAMPLE IDENTIFICATION	59341	COMPOSITE (C) OR GR. AQUEOUS (WATER)	OLID OR	NAQUE	h In		IIIMBER OF COM	TAINERS SUBMITTED		PER SH	IPMENT:	T
PATE TIME SAMPLE DENTIFICATION 18:45 RB-AA2-CON	N I	χ γ	S	NO AR			i i i i i i i i i i i i i i i i i i i	The state of the s	4	LE	IEL	T
49/10 19:50 FB-AAZ-CON		×								1		
119/10 M:30 AAR-CON		4	1							rum	Sand &	Ms/MSD
410 11.00 HAL CON-FU		4	r	44								
41/10 13:52 SSRI-11-N-10		5	X									
4/7/10 14:00 SSR1-11-5-10		G	X		1							
417/10 17:41 SSRI-11-E-5		G	1		12				<b>*</b>	160	LJAR	tane o
47/10 17:55 SSRI -11-W-15		G	*		17				1-4			8
419/10 13:50 SSRI-11-W-10-3		G	X								1	100.0
H		-							<del>                                     </del>	L	WE !	-11
												<u>y</u>
RELUNCIONSHED BY: (SIGNATURE) DATE UN TIME (SIGNATURE) 4/8/10 1/6:60	RELINQUISHED BY: (SIGNA	ATURE)			0/	TE	TIME	RELINQUISHED BY:	(SIGNATURE)		DATE	TIME
ACCEIVED BY: (SIGNATURE) DATE TIME	RECEIVED BY: (SIGNATURE)	ı			DA	TE	TIME	RECEIVED BY: (SIGNA	ATURE)		DATE	TIME
					ONLY			•				
(SIGNATURE)	CUSTODY INTACT YES O NO O	CUST SEAL	ODY NO.	1	SAVANNA LOG NO.	091()-	LABORATOR	Y REMARKS TE	3.5	3		

## Login Sample Receipt Check List

Client: Golder Associates Inc. Job Number: 680-56602-3

Login Number: 56602 List Source: TestAmerica Savannah

Creator: Daughtry, Beth

List Number: 1

Question	T / F/ NA Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A
The cooler's custody seal, if present, is intact.	True
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
There are no discrepancies between the sample IDs on the containers and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A
If necessary, staff have been informed of any short hold time or quick TAT needs	True
Multiphasic samples are not present.	N/A
Samples do not require splitting or compositing.	N/A
Is the Field Sampler's name present on COC?	False
Sample Preservation Verified	True



## ANALYTICAL REPORT

Job Number: 680-56602-1

Job Description: Anniston Landfill Site

For:

Golder Associates Inc. 3730 Chamblee Tucker Road Atlanta, GA 30341

Attention: Mr. Tim Richards

Cideja galicia

Approved for release Lidya Gulizia Project Manager I 4/20/2010 5:27 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
04/20/2010

cc: Mr. Steve Moeller

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q



### Job Narrative 680-56602-1 (Revised; 4-14-10)

### Receipt

All samples were received in good condition within temperature requirements.

#### GC Semi VOA

Method(s) 3550B: The following sample(s) required a sulfuric acid clean-up to reduce matrix interferences: AA2-CON (680-56602-3) and the associated MS/MSD (680-56602-3 MS and 680-56602-3 MSD), AA2-CON-FD (680-56602-4), SSR1-11-E-5 (680-56602-7), SSR1-11-N-10 (680-56602-5), SSR1-11-S-10 (680-56602-6), SSR1-11-W-10-3 (680-56602-9), SSR1-11-W-15 (680-56602-8).

Method(s) 8081A\_8082: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: AA2-CON (680-56602-3), AA2-CON-FD (680-56602-4), SSR1-11-E-5 (680-56602-7), SSR1-11-N-10 (680-56602-5), SSR1-11-S-10 (680-56602-6).

Method(s) 8081A\_8082: The matrix spike samples for sample AA2-CON (680-56602-3) were diluted due to the abundance of target analytes. As such, surrogate and spike recoveries are not reported.

Method(s) 8081A\_8082: Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample(s) contained an allowable number of surrogate compounds outside limits: SSR1-11-W-15 (680-56602-8). These results have been reported and qualified. The results for DCB were further qualified as estimated (flag E) due to positive interference from a non-target compound.

Method(s) 8081A\_8082: This method incorporates the use of second column confirmation. Corrective action for unacceptable percent recovery is not taken for surrogate or spike compounds unless the results from both columns are outside criteria. Any results which fall outside criteria are qualified and reported.

No other analytical or quality issues were noted.

### **General Chemistry**

No analytical or quality issues were noted.

#### Comments

A revised report was issued on april 14, 2010 to correct the PCB reporting limits on the aqeuous field QC samples which were erroneously reported at an incorrect reporting limit based on the final sample volume.

The report was again revised on April 20, 2010 per client request to add Arochlor 1268 to the target reporting list for Method 8082.

Results for Method 680 PCB Homolog results will be submitted following completion in the report for job series 680-56602-2.

No additional comments.

## **METHOD SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-1

Description	Lab Location	Method Preparation Method
Matrix: Solid	-	
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082
Ultrasonic Extraction	TAL SAV	SW846 3550B
Matrix: Water		
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082
Liquid-Liquid Extraction (Continuous)	TAL SAV	SW846 3520C

### Lab References:

TAL SAV = TestAmerica Savannah

### **Method References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: Golder Associates Inc. Job Number: 680-56602-1

Method	Analyst	Analyst ID	
SW846 8081A_8082	Kellar, Joshua	JK	
SW846 8081A_8082	Smith, Crystal	CAS	

## **SAMPLE SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
680-56602-1	RB-AA2-CON	Water	04/07/2010 1845	04/09/2010 0927
680-56602-2	FB-AA2-CON	Water	04/07/2010 1850	04/09/2010 0927
680-56602-3	AA2-CON	Solid	04/07/2010 1730	04/09/2010 0927
680-56602-4	AA2-CON-FD	Solid	04/07/2010 1730	04/09/2010 0927
680-56602-5	SSR1-11-N-10	Solid	04/07/2010 1352	04/09/2010 0927
680-56602-6	SSR1-11-S-10	Solid	04/07/2010 1400	04/09/2010 0927
680-56602-7	SSR1-11-E-5	Solid	04/07/2010 1741	04/09/2010 0927
680-56602-8	SSR1-11-W-15	Solid	04/07/2010 1755	04/09/2010 0927
680-56602-9	SSR1-11-W-10-3	Solid	04/08/2010 1350	04/09/2010 0927

# **SAMPLE RESULTS**

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

RB-AA2-CON

Lab Sample ID:

680-56602-1

Client Matrix: Water

Date Sampled: 04/07/2010 1845 Date Received: 04/09/2010 0927

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8081A_8082 3520C 1.0 04/13/2010 2051 04/12/2010 1730	Analysis Batch: 680-165593 Prep Batch: 680-165426	Initi Fina Inje	rument ID: al Weight/Volume: al Weight/Volume: ction Volume: sult Type:	SGM 1000 mL 10 mL 2 uL PRIMARY
Analyte		Result (ug/L)	Qualifier	MDL	RL
PCB-1016		<1.0		0.071	1.0
PCB-1221		<2.0		0.28	2.0
PCB-1232		<1.0		0.11	1.0
PCB-1242		<1.0		0.18	1.0
PCB-1248		<1.0		0.36	1.0
PCB-1254		<1.0		0.26	1.0
PCB-1260		<1.0		0.20	1.0
PCB-1268		<1.0		0.26	1.0
Surrogate		%Rec	Qualifier	Acceptar	nce Limits
Tetrachloro-m-xyle	ene	71		35 - 120	
DCB Decachlorob	iphenyl	18		14 - 115	

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: RB-AA2-CON

 Lab Sample ID:
 680-56602-1
 Date Sampled: 04/07/2010 1845

 Client Matrix:
 Water
 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: 8081A\_8082
Preparation: 3520C

Dilution: 1.0

Date Analyzed: 04/13/2010 2051

Date Prepared: 04/12/2010 1730

Analysis Batch: 680-165593 Prep Batch: 680-165426

65593 Instrument ID:

Initial Weight/Volume:

SGM 1000 mL

Final Weight/Volume: Injection Volume:

10 mL 2 uL

Result Type:

SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene	70		35 - 120	
DCB Decachlorobiphenyl	15		14 - 115	

14 - 115

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: FB-AA2-CON

DCB Decachlorobiphenyl

 Lab Sample ID:
 680-56602-2
 Date Sampled: 04/07/2010 1850

 Client Matrix:
 Water
 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC) Method: 8081A\_8082 Analysis Batch: 680-165593 Instrument ID: SGM Preparation: 3520C Prep Batch: 680-165426 Initial Weight/Volume: 1020 mL Dilution: 1.0 Final Weight/Volume: 10 mL 04/13/2010 2110 Date Analyzed: Injection Volume: 2 uL 04/12/2010 1730 Date Prepared: Result Type: **PRIMARY** Analyte Result (ug/L) Qualifier MDL RLPCB-1016 < 0.98 0.070 0.98 PCB-1221 <2.0 2.0 0.27 PCB-1232 < 0.98 0.11 0.98 PCB-1242 < 0.98 0.98 0.18 PCB-1248 < 0.98 0.35 0.98 PCB-1254 < 0.98 0.25 0.98 PCB-1260 < 0.98 0.20 0.98 PCB-1268 < 0.98 0.25 0.98 Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 73 35 - 120

58

SGM

1020 mL

10 mL

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: FB-AA2-CON

 Lab Sample ID:
 680-56602-2
 Date Sampled: 04/07/2010 1850

 Client Matrix:
 Water
 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Instrument ID:

Initial Weight/Volume:

Final Weight/Volume:

Method: 8081A\_8082 Analysis Batch: 680-165593

Preparation: 3520C Prep Batch: 680-165426
Dilution: 1.0

Date Analyzed: 04/13/2010 2110 Injection Volume: 2 uL

Date Prepared: 04/12/2010 1730 Result Type: SECONDARY

Surrogate%RecQualifierAcceptance LimitsTetrachloro-m-xylene7035 - 120DCB Decachlorobiphenyl4914 - 115

Client Sample ID:

AA2-CON

Lab Sample ID:

680-56602-3

Client Matrix: Solid

Date Sampled: 04/07/2010 1730 Date Received: 04/09/2010 0927

8081A_8082 Organochlorine Pes	ticides & PCBs (GC)
-------------------------------	---------------------

14.4

Method: Preparation: 8081A\_8082

Analysis Batch: 680-165591

% Moisture:

Instrument ID: S0 Initial Weight/Volume: 15

SGM 15.10 g

Dilution:

3550B 100 Prep Batch: 680-165424

Final Weight/Volume: Injection Volume:

5.0 mL 2 uL

Date Analyzed: Date Prepared: 100 Na/13/20

04/13/2010 0935 04/12/2010 1438

Result Type:

PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<3800		340	3800
PCB-1221		<7800		560	7800
PCB-1232		<3800		380	3800
PCB-1242		<3800		330	3800
PCB-1248		3300	J	840	3800
PCB-1254		24000		270	3800
PCB-1260		23000		780	3800
PCB-1268		28000		200	3800
Surrogate		%Rec	Qualifier	Accepta	ance Limits
Tetrachloro-m-xylene		0	D	26 - 140	)
DCB Decachlorobiphenyl		0	D	50 - 129	e e e e e e e e e e e e e e e e e e e

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

AA2-CON

Lab Sample ID:

680-56602-3

Client Matrix:

0 11 1

Solid

% Moisture:

14.4

Date Sampled: 04/07/2010 1730

Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082 3550B Analysis Batch: 680-165591

Instrument ID:

SGM

Preparation: Dilution:

3550B

Prep Batch: 680-165424

Initial Weight/Volume:

15.10 g 5.0 mL

Date Analyzed:

100 04/13/2010 0935 SP Daten. 000-100424

Final Weight/Volume: Injection Volume:

5.0 mL 2 uL

Date Prepared:

04/12/2010 1438

Result Type:

SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	0	D	26 - 140
DCB Decachlorobiphenyl	0	D	50 - 129

Client Sample ID:

AA2-CON-FD

Lab Sample ID: 680-56602-4 Date Sampled: 04/07/2010 1730 Client Matrix: Solid % Moisture: 12.8 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC) Method: 8081A\_8082 Analysis Batch: 680-165591 Instrument ID: SGM Preparation: 3550B Prep Batch: 680-165424 Initial Weight/Volume: 15.05 g Dilution: 100 Final Weight/Volume: 5.0 mL 04/13/2010 0954 Date Analyzed: Injection Volume: 2 uL 04/12/2010 1438 Date Prepared: Result Type: **PRIMARY** Analyte DryWt Corrected: Y Result (ug/Kg) Qualifier MDL RL PCB-1016 <3800 330 3800 PCB-1221 <7700 550 7700 PCB-1232 <3800 380 3800 PCB-1242 320 3800 <3800 PCB-1248 5800 820 3800 PCB-1254 31000 260 3800 PCB-1260 29000 770 3800 PCB-1268 24000 190 3800 Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 26 - 140 0 D DCB Decachlorobiphenyl D 0 50 - 129

SGM

15.05 g

5.0 mL

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: AA2-CON-FD

Lab Sample ID: 680-56602-4 Date Sampled: 04/07/2010 1730

Client Matrix: Solid % Moisture: 12.8 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Instrument ID:

Initial Weight/Volume:

Final Weight/Volume:

Method: 8081A\_8082 Analysis Batch: 680-165591 Preparation: 3550B Prep Batch: 680-165424

Dilution: 100

04/13/2010 0954 Date Analyzed: Injection Volume: 2 uL 04/12/2010 1438 Date Prepared: Result Type:

SECONDARY

Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 0 D 26 - 140 DCB Decachlorobiphenyl 0 D 50 - 129

Client Sample ID:

SSR1-11-N-10

Lab Sample ID:

680-56602-5

Client Matrix: Solid % Moisture: 13.9 Date Sampled: 04/07/2010 1352

Date Received: 04/09/2010 0927

8081A_8082 Organochlorine Pes	ticides & PCBs (GC)
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Method: Preparation: 8081A\_8082 3550B

Analysis Batch: 680-165572

Instrument ID: Initial Weight/Volume: SGM 15.06 g

Dilution:

Prep Batch: 680-165424

Final Weight/Volume: Injection Volume:

5.0 mL 2 uL

Date Analyzed: Date Prepared:

04/13/2010 1445 04/12/2010 1438

Result Type:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<760		67	760
PCB-1221		<1600		110	1600
PCB-1232		<760		76	760
PCB-1242		<760		65	760
PCB-1248		<760		170	760
PCB-1254		1200		53	760
PCB-1260		2500		160	760
PCB-1268		6900		39	760
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Tetrachloro-m-xylene		0	D	26 - 140	
DCB Decachlorobiphenyl		0	D	50 - 129	

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

SSR1-11-N-10

Lab Sample ID:

680-56602-5

Client Matrix: Solid % Moisture: 13.9 Date Sampled: 04/07/2010 1352 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8081A\_8082

20

3550B

04/13/2010 1445

04/12/2010 1438

Analysis Batch: 680-165572

Instrument ID:

SGM 15.06 g

Prep Batch: 680-165424

Initial Weight/Volume: Final Weight/Volume:

5.0 mL

Injection Volume:

2 uL

Result Type:

SECONDARY

Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 0 D 26 - 140 DCB Decachlorobiphenyl 0 D 50 - 129

Client Sample ID: SSR1-11-S-10

Lab Sample ID: 680-56602-6

Date Sampled: 04/07/2010 1400 Client Matrix: Solid % Moisture: 17.0 Date Received: 04/09/2010 0927

8081A_808	32 Organochlorine	<b>Pesticides</b>	&	<b>PCBs</b>	(GC)	
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Method: 8081A\_8082 3550B Preparation: Dilution: 800

04/13/2010 1505 Date Analyzed: 04/12/2010 1438 Date Prepared:

Analysis Batch: 680-165572

Prep Batch: 680-165424

Instrument ID: Initial Weight/Volume:

15.08 g Final Weight/Volume: 5.0 mL Injection Volume: 2 uL Result Type: PRIMARY

SGM

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<32000		2800	32000
PCB-1221		<64000		4600	64000
PCB-1232		<32000		3200	32000
PCB-1242		<32000		2700	32000
PCB-1248		<32000		6900	32000
PCB-1254		510000		2200	32000
PCB-1260		410000		6400	32000
PCB-1268		210000		1600	32000
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Tetrachloro-m-xylene		0	D	26 - 140	

	AP-174-5-5	5.0000000000000000000000000000000000000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Tetrachloro-m-xylene	0	D	26 - 140
DCB Decachlorobiphenyl	0	D	50 - 129

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: SSR1-11-S-10

Lab Sample ID: 680-56602-6

Date Sampled: 04/07/2010 1400 Client Matrix: Solid % Moisture: 17.0 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082

Analysis Batch: 680-165572

Instrument ID:

SGM

Preparation: Dilution:

3550B

Prep Batch: 680-165424

Initial Weight/Volume:

15.08 g 5.0 mL

Date Analyzed:

800

Final Weight/Volume: Injection Volume:

2 uL

Date Prepared:

04/13/2010 1505 04/12/2010 1438

Result Type:

SECONDARY

Surrogate Tetrachloro-m-xylene DCB Decachlorobiphenyl %Rec 0 0

D D

Qualifier

26 - 140 50 - 129

Acceptance Limits

Client Sample ID: SSR1-11-E-5

Lab Sample ID: 680-56602-7 Date Sampled: 04/07/2010 1741

Client Matrix: Solid % Moisture: 11.5 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-165572	Ins	strument ID:	SGM	
Preparation:	3550B	Prep Batch: 680-165424	Init	tial Weight/Volume:	15.18 g	
Dilution:	100		Fin	nal Weight/Volume:	5.0 mL	
Date Analyzed:	04/13/2010 1524		Inje	ection Volume:	2 uL	
Date Prepared:	04/12/2010 1438		Re	esult Type:	PRIMARY	
Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
PCB-1016	-	<3700		320	3700	
PCB-1221		<7500		540	7500	
PCB-1232		<3700		370	3700	
PCB-1242		<3700		310	3700	
PCB-1248		<3700		800	3700	

DCB Decachlorobiphenyl	0	D	50 - 129	9
Tetrachloro-m-xylene	0	D	26 - 140	)
Surrogate	%Rec	Qualifier	Accepta	ance Limits
PCB-1268	33000		190	3700
PCB-1260	43000		750	3700
PCB-1254	37000		260	3700

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID: SSR1-11-E-5

Lab Sample ID: 680-56602-7 Date Sampled: 04/07/2010 1741

Client Matrix: Solid % Moisture: 11.5 Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: 8081A\_8082 Preparation: 3550B

Dilution: 100

04/13/2010 1524 Date Analyzed:

04/12/2010 1438 Date Prepared:

Analysis Batch: 680-165572

Prep Batch: 680-165424

Instrument ID:

SGM Initial Weight/Volume: 15.18 g

Final Weight/Volume: 5.0 mL Injection Volume: 2 uL

Result Type:

SECONDARY

Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 0 D 26 - 140 DCB Decachlorobiphenyl 0 D 50 - 129

Client Sample ID:

SSR1-11-W-15

Lab Sample ID:

680-56602-8

Client Matrix: Solid % Moisture:

9.6

Date Sampled: 04/07/2010 1755

Date Received: 04/09/2010 0927

2021A	2022	Organochlorine	Posticidos	& DCRe (GC)
000 IA	OUOZ	Organiocinionine	resuciues	a PUDS (GU)

Method: Preparation:

Date Prepared:

8081A\_8082

3550B

5.0

Dilution: Date Analyzed:

04/13/2010 1112 04/12/2010 1438 Analysis Batch: 680-165591

Prep Batch: 680-165424

Instrument ID: Initial Weight/Volume:

SGM 15.04 g Final Weight/Volume: 5.0 mL Injection Volume: 2 uL

Result Type: **PRIMARY** 

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<180		16	180
PCB-1221		<370		26	370
PCB-1232		<180		18	180
PCB-1242		<180		15	180
PCB-1248		<180		40	180
PCB-1254		2100		13	180
PCB-1260		2700		37	180
PCB-1268		3200		9.4	180
Surrogate		%Rec	Qualifier	Accepta	ance Limits
Tetrachloro-m-xylene		81		26 - 14	0
DCB Decachlorobiphenyl		14300	ΕX	50 - 12	9

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

SSR1-11-W-15

Lab Sample ID:

680-56602-8

Client Matrix:

Solid

% Moisture:

9.6

Date Sampled: 04/07/2010 1755

Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: Preparation: 8081A\_8082

3550B

Dilution:

Date Analyzed: Date Prepared:

5.0

04/13/2010 1112 04/12/2010 1438

Analysis Batch: 680-165591

Prep Batch: 680-165424

Instrument ID:

SGM Initial Weight/Volume: 15.04 g Final Weight/Volume: 5.0 mL

Injection Volume: 2 uL Result Type: SECONDARY

Surrogate Tetrachloro-m-xylene

%Rec 79 DCB Decachlorobiphenyl 11700

Qualifier EX

26 - 140 50 - 129

Acceptance Limits

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

SSR1-11-W-10-3

Lab Sample ID:

680-56602-9

Client Matrix:

Solid

% Moisture:

19.6

Date Sampled: 04/08/2010 1350

Date Received: 04/09/2010 0927

2021A	2022	Organochlorine	Posticidos	& DCRe (GC)
000 IA	OUOZ	Organiocinionine	resuciues	a PUDS (GU)

Method: Preparation: 8081A\_8082 3550B

Analysis Batch: 680-165591

Instrument ID: Initial Weight/Volume: SGM 15.41 g

Dilution:

1.0

Prep Batch: 680-165424

Final Weight/Volume: Injection Volume:

5.0 mL 2 uL

Date Analyzed: Date Prepared:

04/13/2010 1131 04/12/2010 1438

Result Type:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
PCB-1016		<40		3.5	40	
PCB-1221		<81		5.8	81	
PCB-1232		<40		4.0	40	
PCB-1242		<40		3.4	40	
PCB-1248		<40		8.7	40	
PCB-1254		<40		2.8	40	
PCB-1260		<40		8.1	40	
PCB-1268		<40		2.1	40	
Surrogate		%Rec	Qualifier	Accep	tance Limits	
Tetrachloro-m-xylene		44		26 - 1	40	
DCB Decachlorobiphenyl		93	р	50 - 1	29	

Client: Golder Associates Inc. Job Number: 680-56602-1

Client Sample ID:

SSR1-11-W-10-3

Lab Sample ID:

680-56602-9

Client Matrix:

Solid

% Moisture:

19.6

Date Sampled: 04/08/2010 1350

Date Received: 04/09/2010 0927

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method: Preparation:

Dilution:

8081A\_8082

3550B

Date Analyzed: Date Prepared:

1.0

04/13/2010 1131 04/12/2010 1438 Prep Batch: 680-165424

Analysis Batch: 680-165591

Instrument ID:

Initial Weight/Volume: Final Weight/Volume:

SGM 15.41 g 5.0 mL

Injection Volume:

2 uL

Result Type:

SECONDARY

Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 42 26 - 140 DCB Decachlorobiphenyl 167 Χ 50 - 129

# **DATA REPORTING QUALIFIERS**

Client: Golder Associates Inc. Job Number: 680-56602-1

Lab Section	Qualifier	Description
GC Semi VOA		
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	E	Result exceeded calibration range.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate is outside control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
	р	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

# **QUALITY CONTROL RESULTS**

# **QC Association Summary**

		Report Basis			
Lab Sample ID	Client Sample ID	Dasis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 680-165424					
LCS 680-165424/19-A	Lab Control Sample	T	Solid	3550B	
MB 680-165424/18-A	Method Blank	T	Solid	3550B	
680-56602-3	AA2-CON	T	Solid	3550B	
680-56602-3MS	Matrix Spike	T	Solid	3550B	
680-56602-3MSD	Matrix Spike Duplicate	T	Solid	3550B	
680-56602-4	AA2-CON-FD	T	Solid	3550B	
680-56602-5	SSR1-11-N-10	T	Solid	3550B	
680-56602-6	SSR1-11-S-10	T	Solid	3550B	
680-56602-7	SSR1-11-E-5	Т	Solid	3550B	
680-56602-8	SSR1-11-W-15	T	Solid	3550B	
680-56602-9	SSR1-11-W-10-3	T	Solid	3550B	
Prep Batch: 680-165426					
LCS 680-165426/17-A	Lab Control Sample	Т	Water	3520C	
MB 680-165426/16-A	Method Blank	T	Water	3520C	
680-56602-1	RB-AA2-CON	Т	Water	3520C	
680-56602-2	FB-AA2-CON	T	Water	3520C	
Analysis Batch:680-165572					
680-56602-3MS	Matrix Spike	T	Solid	8081A_8082	680-165424
680-56602-3MSD	Matrix Spike Duplicate	T	Solid	8081A_8082	680-165424
680-56602-5	SSR1-11-N-10	T	Solid	8081A_8082	680-165424
680-56602-6	SSR1-11-S-10	T	Solid	8081A_8082	680-165424
680-56602-7	SSR1-11-E-5	T	Solid	8081A_8082	680-165424
Analysis Batch:680-165591					
LCS 680-165424/19-A	Lab Control Sample	T	Solid	8081A_8082	680-165424
MB 680-165424/18-A	Method Blank	T	Solid	8081A_8082	680-165424
680-56602-3	AA2-CON	T	Solid	8081A_8082	680-165424
680-56602-4	AA2-CON-FD	T	Solid	8081A_8082	680-165424
680-56602-8	SSR1-11-W-15	T	Solid	8081A_8082	680-165424
680-56602-9	SSR1-11-W-10-3	Т	Solid	8081A_8082	680-165424
Analysis Batch:680-165593					
LCS 680-165426/17-A	Lab Control Sample	Τ.	Water	8081A_8082	680-165426
MB 680-165426/16-A	Method Blank	T	Water	8081A_8082	680-165426
680-56602-1	RB-AA2-CON	T	Water	8081A_8082	680-165426
680-56602-2	FB-AA2-CON	Ŧ	Water	8081A_8082	680-165426
680-56602-1 680-56602-2			MENORESTRA	THE SOURCEST CONTRACTOR	

#### Report Basis

T = Total

# **Surrogate Recovery Report**

## 8081A 8082 Organochlorine Pesticides & PCBs (GC)

#### Client Matrix: Solid

		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56602-3	AA2-CON	0D	0D	0D	0D
680-56602-4	AA2-CON-FD	0D	0D	0D	0D
680-56602-5	SSR1-11-N-10	0D	0D	0D	0D
680-56602-6	SSR1-11-S-10	0D	0D	0D	0D
680-56602-7	SSR1-11-E-5	0D	0D	0D	0D
680-56602-8	SSR1-11-W-15	81	79	1170E X 0	1430E X 0
680-56602-9	SSR1-11-W-10-3	42	44	167X	93p
MB 680-165424/18-A		77	84	75	91
LCS 680-165424/19-A		80	81	87	90
680-56602-3 MS	AA2-CON MS	0D	0D	0D	0D
680-56602-3 MSD	AA2-CON MSD	0D	0D	0D	0D

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	26-140
DCB = DCB Decachlorobiphenyl	50-129

# **Surrogate Recovery Report**

## 8081A 8082 Organochlorine Pesticides & PCBs (GC)

#### **Client Matrix: Water**

		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56602-1	RB-AA2-CON	71	70	15	18
680-56602-2	FB-AA2-CON	70	73	49	58
MB 680-165426/16-A		70	73	80	89
LCS 680-165426/17-A	1	75	76	70	79

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	35-120
DCB = DCB Decachlorobiphenyl	14-115

Client: Golder Associates Inc. Job Number: 680-56602-1

Method Blank - Batch: 680-165424 Method: 8081A\_8082 Preparation: 3550B

Lab Sample ID: MB 680-165424/18-A Analysis Batch: 680-165591 Instrument ID: SGM

Client Matrix: Prep Batch: 680-165424 Solid Lab File ID: md12036.d Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 15.00 g

04/13/2010 0856 Date Analyzed: Final Weight/Volume: 5.0 mL Date Prepared: 04/12/2010 1438 Injection Volume: 2 uL Column ID: **PRIMARY** 

Analyte	Result	Qual	MDL	RL
PCB-1016	<33		2.9	33
PCB-1221	<67		4.8	67
PCB-1232	<33		3.3	33
PCB-1242	<33		2.8	33
PCB-1248	<33		7.2	33
PCB-1254	<33		2.3	33
PCB-1260	<33		6.7	33
PCB-1268	<33		1.7	33
Surrogate	% Rec		Acceptance Limits	
Tetrachloro-m-xylene	84		26 - 140	
DCB Decachlorobiphenyl	91		50 - 129	

지수 (1993) (HT) 시발한다면 이 프라이어의 아무리와 아무리는 아무리가 <b>- 1</b> 세한 가입니다 중요. 이 나는 그 나는 다음이다.			
Surrogate	% Rec	Acceptance Limits	
Tetrachloro-m-xylene	77	26 - 140	
DCB Decachlorobiphenyl	75	50 - 129	

Lab Control Sample - Batch: 680-165424 Method: 8081A\_8082 Preparation: 3550B

Lab Sample ID: LCS 680-165424/19-A Analysis Batch: 680-165591 Instrument ID: SGM Client Matrix: Solid Prep Batch: 680-165424 Lab File ID: md12037.d Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 15.00 g

Date Analyzed: 04/13/2010 0915 Final Weight/Volume: 5.0 mL Date Prepared: 04/12/2010 1438 Injection Volume: 2 uL

Column ID: **PRIMARY** 1 :--: A -- - 1- -4

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	333	309	93	43 - 136	
PCB-1260	333	291	87	53 - 133	
Surrogate	% R	ec	Ac	ceptance Limits	
Tetrachloro-m-xylene	81		26 - 140		
DCB Decachlorobiphenyl	90			50 - 129	
Surrogate	% R	ec	Ac	ceptance Limits	
Tetrachloro-m-xylene	80			26 - 140	
DCB Decachlorobiphenyl	87			50 - 129	

Client: Golder Associates Inc. Job Number: 680-56602-1

Matrix Spike/ Method: 8081A\_8082
Matrix Spike Duplicate Recovery Report - Batch: 680-165424 Preparation: 3550B

MS Lab Sample ID: 680-56602-3 Analysis Batch: 680-165572 Instrument ID: SGM Client Matrix: Solid Prep Batch: 680-165424 Lab File ID: md12050.d Dilution: 100 Initial Weight/Volume: 15.26 g 04/13/2010 1407 Date Analyzed: Final Weight/Volume: 5.0 mL 04/12/2010 1438 Date Prepared: Injection Volume: 2 uL **PRIMARY** Column ID:

 MSD Lab Sample ID:
 680-56602-3
 Analysis Batch:
 680-165572
 Instrument ID:
 SGM

 Client Matrix:
 Solid
 Prep Batch:
 680-165424
 Lab File ID:
 md12051.d

 Dilution:
 100
 Initial Weight/Volume:
 15.21
 g

 Date Analyzed:
 04/13/2010 1426
 Final Weight/Volume:
 5.0 mL

 Date Prepared:
 04/12/2010 1438
 Injection Volume:
 2 uL

 Column ID:
 PRIMARY

% Rec. Analyte MS MSD Limit **RPD RPD Limit** MS Qual MSD Qual PCB-1016 0 0 43 - 136 F NC 50 F PCB-1260 -376 169 53 - 133 9 50 4 4 Surrogate MS % Rec MSD % Rec Acceptance Limits 0 D 0 Tetrachloro-m-xylene D 26 - 140 DCB Decachlorobiphenyl 0 D 0 D 50 - 129 Surrogate MS % Rec MSD % Rec Acceptance Limits Tetrachloro-m-xylene 0 D 0 D 26 - 140 DCB Decachlorobiphenyl 0 D 0 D 50 - 129

Client: Golder Associates Inc. Job Number: 680-56602-1

Method Blank - Batch: 680-165426 Method: 8081A\_8082 Preparation: 3520C

Lab Sample ID: MB 680-165426/16-A Analysis Batch: 680-165593 Instrument ID: SGM Client Matrix: Water Prep Batch: 680-165426 Lab File ID: md12066.d Dilution: 1.0 Units: ug/L Initial Weight/Volume: 1000 mL

04/13/2010 1914 Date Analyzed: Final Weight/Volume: 10 mL Date Prepared: 04/12/2010 1730 Injection Volume: 2 uL Column ID: **PRIMARY** 

Analyte	Result	Qual	MDL	RL
PCB-1016	<1.0		0.071	1.0
PCB-1221	<2.0		0.28	2.0
PCB-1232	<1.0		0.11	1.0
PCB-1242	<1.0		0.18	1.0
PCB-1248	<1.0		0.36	1.0
PCB-1254	<1.0		0.26	1.0
PCB-1260	<1.0		0.20	1.0
PCB-1268	<1.0		0.26	1.0
Surrogate	% Rec		Acceptance Limits	
Tetrachloro-m-xylene	73		35 - 120	
DCB Decachlorobiphenyl	89		14 - 115	

DCB Decacniorobiphenyi	89	14 - 115	
Surrogate	% Rec	Acceptance Limits	
Tetrachloro-m-xylene	70	35 - 120	
DCB Decachlorobiphenyl	80	14 - 115	

Lab Control Sample - Batch: 680-165426 Method: 8081A\_8082 Preparation: 3520C

Lab Sample ID: LCS 680-165426/17-A Analysis Batch: 680-165593 Instrument ID: SGM Client Matrix: Water Prep Batch: 680-165426 Lab File ID: md12067.d Dilution: Units: ug/L Initial Weight/Volume: 1000 mL

Date Analyzed: 04/13/2010 1933 Final Weight/Volume: 10 mL Date Prepared: 04/12/2010 1730 Injection Volume: 2 uL Column ID: **PRIMARY** 

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	10.0	10.8	108	57 - 124	
PCB-1260	10.0	9.50	95	58 - 124	
Surrogate	% R	ec	Ac	ceptance Limits	
Tetrachloro-m-xylene	76	76 35 - 120			
DCB Decachlorobiphenyl	79			14 - 115	
Surrogate	% R	ec	Ac	ceptance Limits	
Tetrachloro-m-xylene	75			35 - 120	
DCB Decachlorobiphenyl	70			14 - 115	

Serial Number 025070

	ALYSIS REQUEST AND CHAI	N OF CUSTODY F	RECOR	RD.	X	TestAmeri 5102 LaRo Savannah,	che Aven	ue		Website: www Phone: (912) Fax: (912) 35:	354-7858	icainc.co	m
<b>TestAme</b>	SIICU					> Alternate L	aboratory	Name/Lo	cation		· · · · · ·		
THE LEADER IN ENVIRON	MENTAL TESTING									Phone: Fax:			
OJECT REFERENCE SOLUTIA AMIS	PROJECT NO.	PROJECT LOCATION (STATE)		ATRIX YPE		39		REQUIR	ED ANALYSIS		PAGE		OF
L (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.	TE		()	. 2					STANDAI DELIVER		श
IENT (SITE) PM RICHARI	CLIENT PHONE 8703	CLIENT FAX	INDICATE		OLVEN	PCB5 1 9082						E DUE	
LENT NAME_ / GOLDE	R TRICHARDS Q	Gouralian	3 GRAB (G)	QI)	NONAQUEOUS LIQUID (OIL, SOLVENT,)	680 1 80814					EXPEDIT DELIVER (SURCHA	Y NRGE)	
IENT ADDRESS 3730 CHA	mbles toker al	Acthora GA	COMPOSITE (C) OR GR AQUEOUS (WATER)	EMISO	USTIG	4 4	Michael Ma River	и дине сустем.				OF COOL	ERS SUBMITTED
OMPANY CONTRACTING THIS WO	PRK (if applicable)	30341	OSITE	ORS	OUEO	Parks Marks		in aprile system. - Park Sister - Park Securi			PER SHIF	PMENT;	1
SAMPLE	SAMPLE IDENTIFICATION	N	COME	SOLIC	NON		NUMBI	ER OF CON	ITAINERS SUBMITTED		1	REMA	RKS
19:45 (	UB-AA2-CON		8			l l				4	LEV	EL	W
4010 18:50 F	B-AAZ-CON		7			1 1					V.	Adal	
119/10 17:30	AAR-CON		4	1	44						rem	14	us/auso
4/07/10 17:30	AAZ-CON-FD	)	C	Υ_	11	1 1							
4/1/10 13:52	SSR1-11-N-10	s. 20. http://doi.org/10.000/	G	X									
4/2/10 14:00 5	SR1-11-5-10		G	X									
47/10 17:41	SSR1-11-E-5		G	1		12				<b> </b>	7 16 02	JAR	FARED
4/2/10 17:55	SSR1-11-W-15		G	۲		1/3				<u> </u>			6805 8
410 10 13:50 C	3R1-11-W-10-3		G	X		1 1						^	
11-0-11-0								-		++++	+ Le	re[	1
RELUNCTURSHED BY: (SUCHATURE)	DATE 4/8/10 1/6:00	RELINQUISHED BY: (SIG	SNATURE)			DATE	1	IME	RELINQUISHED BY:	(SIGNATURE)	D/	TE.	TIME
ACCEIVED BY: (SI NATURE)	74810 16:00 DATE TIME	RECEIVED BY: (SIGNATUR	RE)			DATE	1	IME	RECEIVED BY: (SIGN	ATURE)	DA	NTE	TIME
		-	LABOR	ATOR	Y USE	E ONLY			<u> L</u>				
RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE TIME	CUSTODY INTACT YES O NO O	CUST	ODY		SAVANNAH LOG NO. 68 5660	)()- L	ABORATOF	RY REMARKS T	3.5	3		

# Login Sample Receipt Check List

Client: Golder Associates Inc. Job Number: 680-56602-1

Login Number: 56602 List Source: TestAmerica Savannah

Creator: Daughtry, Beth

List Number: 1

Question	T / F/ NA Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A
The cooler's custody seal, if present, is intact.	True
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
There are no discrepancies between the sample IDs on the containers and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A
If necessary, staff have been informed of any short hold time or quick TAT needs	True
Multiphasic samples are not present.	N/A
Samples do not require splitting or compositing.	N/A
Is the Field Sampler's name present on COC?	False
Sample Preservation Verified	True



# ANALYTICAL REPORT

Job Number: 680-56602-2

Job Description: Anniston Landfill Site

For:

Golder Associates Inc. 3730 Chamblee Tucker Road Atlanta, GA 30341

Attention: Mr. Tim Richards

Lideja grizia

Approved for release Lidya Gulizia Project Manager I 4/20/2010 5:44 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
04/20/2010

cc: Mr. Steve Moeller

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q



#### Job Narrative 680-56602-2

#### Receipt

All samples were received in good condition within temperature requirements.

#### GC/MS Semi VOA

Method(s) 680: Internal standard response for the following sample(s) exceeded the upper control limit: RB-AA2-CON (680-56602-1). As such, the sample results may be biased low.

Method(s) 680: Sample AA2-CON-FD (680-56602-4) was diluted due to abundance of target analytes. As such, surrogate recoveries are not reported, and elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

#### Comments

No additional comments.

## **METHOD SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-2

Description	Lab Location	Method	Preparation Method
Matrix Solid	=		
Polychlorinated Biphenyls (PCBs) (GC/MS)	TAL SAV	EPA 680	
Extraction (Solid PCBs)	TAL SAV		EPA 680
Matrix Water			
Polychlorinated Biphenyls (PCBs) (GC/MS)	TAL SAV	EPA 680	
Liquid-Liquid Extraction (Separatory Funnel)	TAL SAV		EPA 680

#### Lab References:

TAL SAV = TestAmerica Savannah

#### **Method References:**

EPA = US Environmental Protection Agency

# METHOD / ANALYST SUMMARY

Client: Golder Associates Inc. Job Number: 680-56602-2

Method	Analyst	Analyst ID	
EPA 680	Chamberlain, Kim	KAC	
EPA 680	Davis, Nancy	ND	

## **SAMPLE SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56602-2

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
680-56602-1	RB-AA2-CON	Water	04/07/2010 1845	04/09/2010 0927
680-56602-2	FB-AA2-CON	Water	04/07/2010 1850	04/09/2010 0927
680-56602-3	AA2-CON	Solid	04/07/2010 1730	04/09/2010 0927
680-56602-4	AA2-CON-FD	Solid	04/07/2010 1730	04/09/2010 0927
680-56602-5	SSR1-11-N-10	Solid	04/07/2010 1352	04/09/2010 0927
680-56602-6	SSR1-11-S-10	Solid	04/07/2010 1400	04/09/2010 0927
680-56602-7	SSR1-11-E-5	Solid	04/07/2010 1741	04/09/2010 0927
680-56602-8	SSR1-11-W-15	Solid	04/07/2010 1755	04/09/2010 0927
680-56602-9	SSR1-11-W-10-3	Solid	04/08/2010 1350	04/09/2010 0927

# **SAMPLE RESULTS**

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID:

RB-AA2-CON

Lab Sample ID: Client Matrix:

680-56602-1

Water

Date Sampled: 04/07/2010 1845 Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680 Preparation: 680

1.0

Analysis Batch: 680-165611 Prep Batch: 680-165312

Instrument ID: Lab File ID:

MSF N/A

Dilution: Date Analyzed:

04/13/2010 1704

Initial Weight/Volume: Final Weight/Volume: 1020 mL 1 mL

Date Prepared:

04/09/2010 1703

Injection Volume:

Analyte Result (ug/L) Qualifier MDL RL Monochlorobiphenyl <0.098 0.0055 0.098 <0.098 Dichlorobiphenyl 0.0053 0.098 Trichlorobiphenyl <0.098 0.0064 0.098 < 0.20 Tetrachlorobiphenyl 0.013 0.20 Pentachlorobiphenyl < 0.20 0.014 0.20 Hexachlorobiphenyl < 0.20 0.015 0.20 Heptachlorobiphenyl < 0.29 0.029 0.29 Octachlorobiphenyl <0.29 0.037 0.29 Nonachlorobiphenyl < 0.49 0.048 0.49 DCB Decachlorobiphenyl < 0.49 0.069 0.49 Surrogate %Rec Qualifier

Decachlorobiphenyl-13C12

89

25 - 113

Acceptance Limits

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID: FB-AA2-CON

Lab Sample ID: 680-56602-2 Date Sampled: 04/07/2010 1850

Client Matrix: Water Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

 Method:
 680
 Analysis Batch: 680-165611
 Instrument ID:
 MSF

 Preparation:
 680
 Prep Batch: 680-165312
 Lab File ID:
 N/A

 Dilution:
 1.0
 Initial Weight/Volume:
 1030 mL

 Date Analyzed:
 04/13/2010 1736
 Final Weight/Volume:
 1 mL

 Date Analyzed:
 04/13/2010 1736
 Final Weight/Volume:
 1 ml

 Date Prepared:
 04/09/2010 1703
 Injection Volume:

Analyte Result (ug/L) Qualifier MDL RL Monochlorobiphenyl < 0.097 0.0054 0.097 < 0.097 Dichlorobiphenyl 0.0052 0.097 Trichlorobiphenyl < 0.097 0.0063 0.097 < 0.19 Tetrachlorobiphenyl 0.013 0.19 Pentachlorobiphenyl < 0.19 0.014 0.19 Hexachlorobiphenyl < 0.19 0.015 0.19 Heptachlorobiphenyl < 0.29 0.029 0.29 Octachlorobiphenyl <0.29 0.037 0.29 Nonachlorobiphenyl < 0.49 0.048 0.49 DCB Decachlorobiphenyl < 0.49 0.068 0.49 Surrogate %Rec Qualifier Acceptance Limits

Decachlorobiphenyl-13C12 87 25 - 113

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID:

AA2-CON

Lab Sample ID:

Method:

Preparation:

680-56602-3

Client Matrix:

680

Solid % Moisture: 14.4 Date Sampled: 04/07/2010 1730 Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

680 Analysis Batch: 680-165897

Prep Batch: 680-165422

Instrument ID: Lab File ID:

MSF N/A

Dilution: 50 04/15/2010 1523 Date Analyzed:

30.06 g Initial Weight/Volume: Final Weight/Volume:

1.0 mL

04/12/2010 1342 Date Prepared: Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<190		11	190
Dichlorobiphenyl		1300		20	190
Trichlorobiphenyl		5500		9.9	190
Tetrachlorobiphenyl		7000		22	390
Pentachlorobiphenyl		9400		20	390
Hexachlorobiphenyl		13000		19	390
Heptachlorobiphenyl		12000		29	580
Octachlorobiphenyl		5900		31	580
Nonachlorobiphenyl		870	J	54	990
DCB Decachlorobiphenyl		560	J	48	990
Surrogate		%Rec	Qualifier	Accept	ance Limits
Decachlorobiphenyl-13C12		0	D	30 - 13	0

Job Number: 680-56602-2 Client: Golder Associates Inc.

Client Sample ID:

AA2-CON-FD

Lab Sample ID:

680-56602-4

Client Matrix: Solid % Moisture: 12.8 Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680 Preparation: 680 Analysis Batch: 680-165897

Instrument ID: Lab File ID:

MSF N/A

Dilution: 10 Prep Batch: 680-165422

Initial Weight/Volume: Final Weight/Volume:

30.29 g 1.0 mL

Date Sampled: 04/07/2010 1730

Date Analyzed:

04/15/2010 1106

Date Prepared:

04/12/2010 1342

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		7.4	J	2.2	37
Dichlorobiphenyl		54		4.0	37
Trichlorobiphenyl		390		1.9	37
Tetrachlorobiphenyl		1800		4.2	76
Pentachlorobiphenyl		3000		3.9	76
Hexachlorobiphenyl		4500		3.7	76
Heptachlorobiphenyl		3000		5.7	110
Octachlorobiphenyl		1400		6.0	110
Nonachlorobiphenyl		380		11	190
DCB Decachlorobiphenyl		330		9.4	190
Surrogate		%Rec	Qualifier	Accepta	ince Limits
Decachlorobiphenyl-13C12		0	D	30 - 130	)

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID:

SSR1-11-N-10

Lab Sample ID:

680-56602-5

Client Matrix:

Solid

% Moisture:

13.9

Date Sampled: 04/07/2010 1352

Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: Preparation: 680 680 Analysis Batch: 680-165897 Prep Batch: 680-165422

Instrument ID: Lab File ID:

MSF N/A

Dilution: 10 Date Analyzed:

04/15/2010 1138

Initial Weight/Volume: Final Weight/Volume:

30.35 g 1.0 mL

04/12/2010 1342 Date Prepared:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<38		2.2	38
Dichlorobiphenyl		<38		4.0	38
Trichlorobiphenyl		<38		2.0	38
Tetrachlorobiphenyl		17	J	4.2	77
Pentachlorobiphenyl		120		3.9	77
Hexachlorobiphenyl		240		3.8	77
Heptachlorobiphenyl		130		5.7	110
Octachlorobiphenyl		390		6.1	110
Nonachlorobiphenyl		710		11	200
DCB Decachlorobiphenyl		1900		9.5	200
Surrogate		%Rec	Qualifier	Accepta	ance Limits
Decachlorobiphenyl-13C12		0	D	30 - 130	)

Job Number: 680-56602-2 Client: Golder Associates Inc.

Client Sample ID:

SSR1-11-S-10

Lab Sample ID:

680-56602-6

04/15/2010 1210

04/12/2010 1342

Client Matrix: Solid % Moisture: 17.0 Date Sampled: 04/07/2010 1400

Date Received: 04/09/2010 0927

680 Polychlorinated	Biphenyls	(PCBs)	(GC/MS)
---------------------	-----------	--------	---------

Method: Preparation: Dilution:

Date Analyzed:

Date Prepared:

680 680 100 Analysis Batch: 680-165897 Prep Batch: 680-165422

Instrument ID: Lab File ID:

MSF N/A

Initial Weight/Volume: Final Weight/Volume:

30.05 g 1.0 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<400		23	400
Dichlorobiphenyl		<400		42	400
Trichlorobiphenyl		530		20	400
Tetrachlorobiphenyl		17000		45	810
Pentachlorobiphenyl		83000		41	810
Hexachlorobiphenyl		110000		40	810
Heptachlorobiphenyl		57000		60	1200
Octachlorobiphenyl		20000		64	1200
Nonachlorobiphenyl		5500		110	2000
DCB Decachlorobiphenyl		7700		100	2000
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Decachlorobiphenyl-13C12		0	D	30 - 130	

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID:

SSR1-11-E-5

Lab Sample ID:

680-56602-7

Client Matrix: Solid

% Moisture:

11.5

Date Sampled: 04/07/2010 1741

Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: Preparation: 680 680 Analysis Batch: 680-165897

Instrument ID: Lab File ID:

MSF N/A

Dilution: 10

04/15/2010 1243 Date Analyzed:

Prep Batch: 680-165422

Initial Weight/Volume: Final Weight/Volume:

30.10 g 1.0 mL

Date Prepared:

04/12/2010 1342

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<37		2.1	37
Dichlorobiphenyl		<37		3.9	37
Trichlorobiphenyl		18	J	1.9	37
Tetrachlorobiphenyl		480		4.2	75
Pentachlorobiphenyl		3500		3.8	75
Hexachlorobiphenyl		5900		3.7	75
Heptachlorobiphenyl		3600		5.6	110
Octachlorobiphenyl		1900		6.0	110
Nonachlorobiphenyl		1100		10	190
DCB Decachlorobiphenyl		52	J	9.3	190
Surrogate		%Rec	Qualifier	Accept	tance Limits
Decachlorobiphenyl-13C12		0	D	30 - 13	80

Job Number: 680-56602-2 Client: Golder Associates Inc.

Client Sample ID:

SSR1-11-W-15

Lab Sample ID:

680-56602-8

04/15/2010 1315

04/12/2010 1342

Client Matrix: Solid Date Sampled: 04/07/2010 1755 Date Received: 04/09/2010 0927

000000000000000000000000000000000000000	STATE OF BY 2	DESCRIPTION OF THE PROPERTY OF	Transport Court (SE)	
680 Pol	vchlorinated	Biphenvis	(PCBs)	(GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

680 680

10

Analysis Batch: 680-165897 Prep Batch: 680-165422

9.6

Instrument ID: Lab File ID:

MSF N/A

% Moisture:

Initial Weight/Volume: Final Weight/Volume:

30.08 g 1.0 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<36		2.1	36
Dichlorobiphenyl		<36		3.9	36
Trichlorobiphenyl		5.8	J	1.9	36
Tetrachlorobiphenyl		140		4.1	74
Pentachlorobiphenyl		730		3.7	74
Hexachlorobiphenyl		1000		3.6	74
Heptachlorobiphenyl		640		5.5	110
Octachlorobiphenyl		490		5.8	110
Nonachlorobiphenyl		64	J	10	190
DCB Decachlorobiphenyl		1500		9.2	190
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Decachlorobiphenyl-13C12		0	D	30 - 130	

Client: Golder Associates Inc. Job Number: 680-56602-2

Client Sample ID:

SSR1-11-W-10-3

Lab Sample ID:

680-56602-9

Client Matrix:

04/14/2010 1648

04/12/2010 1342

Solid

% Moisture:

19.6

Date Sampled: 04/08/2010 1350

Date Received: 04/09/2010 0927

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

680 680 1.0

Analysis Batch: 680-165789

Prep Batch: 680-165422

Instrument ID: Lab File ID:

MSF N/A

Initial Weight/Volume: Final Weight/Volume:

30.13 g 1.0 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<4.1		0.24	4.1
Dichlorobiphenyl		<4.1		0.43	4.1
Trichlorobiphenyl		<4.1		0.21	4.1
Tetrachlorobiphenyl		<8.3		0.46	8.3
Pentachlorobiphenyl		<8.3		0.42	8.3
Hexachlorobiphenyl		<8.3		0.41	8.3
Heptachlorobiphenyl		<12		0.62	12
Octachlorobiphenyl		<12		0.66	12
Nonachlorobiphenyl		<21		1.2	21
DCB Decachlorobiphenyl		<21		1.0	21
Surrogate		%Rec	Qualifier	Accepta	ince Limits
Decachlorobiphenyl-13C12		81		30 - 130	)

# **DATA REPORTING QUALIFIERS**

Client: Golder Associates Inc. Job Number: 680-56602-2

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

# **QUALITY CONTROL RESULTS**

# **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 680-165312	2				
LCS 680-165312/10-A	Lab Control Sample	T	Water	680	
MB 680-165312/9-A	Method Blank	T	Water	680	
680-56602-1	RB-AA2-CON	T	Water	680	
680-56602-2	FB-AA2-CON	T	Water	680	
Prep Batch: 680-165422	2				
LCS 680-165422/9-A	Lab Control Sample	T	Solid	680	
MB 680-165422/8-A	Method Blank	T	Solid	680	
680-56602-3	AA2-CON	T	Solid	680	
680-56602-4	AA2-CON-FD	T	Solid	680	
680-56602-5	SSR1-11-N-10	T	Solid	680	
680-56602-6	SSR1-11-S-10	Ţ	Solid	680	
680-56602-7	SSR1-11-E-5	T	Solid	680	
680-56602-8	SSR1-11-W-15	T	Solid	680	
680-56602-9	SSR1-11-W-10-3	T	Solid	680	
Analysis Batch:680-165	6611				
LCS 680-165312/10-A	Lab Control Sample	Т	Water	680	680-165312
MB 680-165312/9-A	Method Blank	T	Water	680	680-165312
680-56602-1	RB-AA2-CON	T	Water	680	680-165312
680-56602-2	FB-AA2-CON	T	Water	680	680-165312
Analysis Batch:680-165	5789				
LCS 680-165422/9-A	Lab Control Sample	<b>T</b> -2	Solid	680	680-165422
MB 680-165422/8-A	Method Blank	T	Solid	680	680-165422
680-56602-9	SSR1-11-W-10-3	Т	Solid	680	680-165422
Analysis Batch:680-165	5897				
680-56602-3	AA2-CON	Ť	Solid	680	680-165422
680-56602-4	AA2-CON-FD	T	Solid	680	680-165422
680-56602-5	SSR1-11-N-10	Т	Solid	680	680-165422
680-56602-6	SSR1-11-S-10	Т	Solid	680	680-165422
680-56602-7	SSR1-11-E-5	T	Solid	680	680-165422
680-56602-8	SSR1-11-W-15	T	Solid	680	680-165422

## Report Basis

T = Total

# **Surrogate Recovery Report**

## 680 Polychlorinated Biphenyls (PCBs) (GC/MS)

## Client Matrix: Solid

		13DCB
Lab Sample ID	Client Sample ID	%Rec
680-56602-3	AA2-CON	0D
680-56602-4	AA2-CON-FD	0D
680-56602-5	SSR1-11-N-10	0D
680-56602-6	SSR1-11-S-10	0D
680-56602-7	SSR1-11-E-5	0D
680-56602-8	SSR1-11-W-15	0D
680-56602-9	SSR1-11-W-10-3	81
MB 680-165422/8-A		68
LCS 680-165422/9-A		86

Surrogate Acceptance Limits

13DCB = Decachlorobiphenyl-13C12

30-130

# **Surrogate Recovery Report**

## 680 Polychlorinated Biphenyls (PCBs) (GC/MS)

## **Client Matrix: Water**

		13DCB
Lab Sample ID	Client Sample ID	%Rec
680-56602-1	RB-AA2-CON	89
680-56602-2	FB-AA2-CON	87
MB 680-165312/9-A		100
LCS 680-165312/10-A		109

Surrogate Acceptance Limits

13DCB = Decachlorobiphenyl-13C12 25-113

Client: Golder Associates Inc. Job Number: 680-56602-2

Method Blank - Batch: 680-165312 Method: 680
Preparation: 680

Lab Sample ID: MB 680-165312/9-A Analysis Batch: 680-165611 Instrument ID: MSF

Client Matrix: Water Prep Batch: 680-165312 Lab File ID: N/A

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 1000 mL Date Analyzed: 04/13/2010 1410 Final Weight/Volume: 1 mL

Date Prepared: 04/09/2010 1703 Injection Volume:

Analyte	Result	Qual	MDL	RL
Monochlorobiphenyl	<0.10		0.0056	0.10
Dichlorobiphenyl	<0.10		0.0054	0.10
Trichlorobiphenyl	<0.10		0.0065	0.10
Tetrachlorobiphenyl	<0.20		0.013	0.20
Pentachlorobiphenyl	<0.20		0.014	0.20
Hexachlorobiphenyl	<0.20		0.015	0.20
Heptachlorobiphenyl	<0.30		0.030	0.30
Octachlorobiphenyl	<0.30		0.038	0.30
Nonachlorobiphenyl	<0.50		0.049	0.50
DCB Decachlorobiphenyl	<0.50		0.070	0.50
Surrogate	% Rec		Acceptance Limits	
Decachlorobiphenyl-13C12	100		25 - 113	

Lab Control Sample - Batch: 680-165312 Method: 680
Preparation: 680

Lab Sample ID: LCS 680-165312/10-A Analysis Batch: 680-165611 Instrument ID: MSF

Client Matrix: Water Prep Batch: 680-165312 Lab File ID: N/A

Dilution: 1.0 Units: ug/L Initial Weight/Volume: 1000 mL

Date Analyzed: 04/13/2010 1515 Final Weight/Volume: 1 mL

Date Prepared: 04/09/2010 1703 Injection Volume:

Analyte Spike Amount Result % Rec. Limit Qual 10 - 125 Monochlorobiphenyl 2.00 1.55 77 Dichlorobiphenyl 2.00 1.75 88 10 - 110 Trichlorobiphenyl 2.00 1.82 91 17 - 110 Tetrachlorobiphenyl 4.00 3.63 91 18 - 110 Pentachlorobiphenyl 4.00 3.95 99 34 - 110 Hexachlorobiphenyl 4.00 3.85 96 31 - 110 Heptachlorobiphenyl 6.00 5.92 99 33 - 110 Octachlorobiphenyl 6.00 6.16 103 33 - 110 26 - 115 DCB Decachlorobiphenyl 10.0 9.86 99 Surrogate % Rec Acceptance Limits

Decachlorobiphenyl-13C12 109 25 - 113

Client: Golder Associates Inc. Job Number: 680-56602-2

Method Blank - Batch: 680-165422 Method: 680
Preparation: 680

Lab Sample ID: MB 680-165422/8-A Analysis Batch: 680-165789 Instrument ID: MSF

Client Matrix: Solid Prep Batch: 680-165422 Lab File ID: N/A
Dilution: 1.0 Units: ug/Kg Initial Weight/Volume:

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 30.00 g
Date Analyzed: 04/14/2010 1230 Final Weight/Volume: 1.0 mL

Date Prepared: 04/12/2010 1342 Injection Volume:

Analyte	Result	Qual	MDL	RL
Monochlorobiphenyl	<3.3	<3.3		3.3
Dichlorobiphenyl	<3.3		0.35	3.3
Trichlorobiphenyl	<3.3		0.17	3.3
Tetrachlorobiphenyl	<6.7		0.37	6.7
Pentachlorobiphenyl	<6.7	<6.7		6.7
Hexachlorobiphenyl	<6.7	<6.7		6.7
Heptachlorobiphenyl	<10	<10		10
Octachlorobiphenyl	<10		0.53	10
Nonachlorobiphenyl	<17		0.93	17
DCB Decachlorobiphenyl	<17		0.83	17
Surrogate	% Rec		Acceptance Limits	
Decachlorobiphenyl-13C12	68		30 - 130	

Lab Control Sample - Batch: 680-165422 Method: 680
Preparation: 680

Lab Sample ID: LCS 680-165422/9-A Analysis Batch: 680-165789 Instrument ID: MSF

Client Matrix: Solid Prep Batch: 680-165422 Lab File ID: N/A

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 30.00 g
Date Analyzed: 04/14/2010 1302 Final Weight/Volume: 1.0 mL

Date Prepared: 04/12/2010 1342 Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Monochlorobiphenyl	66.7	44.6	67	30 - 130	
Dichlorobiphenyl	66.7	47.8	72	30 - 130	
Trichlorobiphenyl	66.7	49.8	75	30 - 130	
Tetrachlorobiphenyl	133	98.8	74	40 - 140	
Pentachlorobiphenyl	133	107	80	40 - 140	
Hexachlorobiphenyl	133	105	79	40 - 140	
Heptachlorobiphenyl	200	161	80	40 - 140	
Octachlorobiphenyl	200	163	82	40 - 140	
DCB Decachlorobiphenyl	333	254	76	30 - 130	
Surrogate	% Rec		Acc	ceptance Limits	
Decachlorohinhenyl-13C12	86			30 130	

Decachlorobiphenyl-13C12 86 30 - 130

Serial Number 025070

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  STAMPICO  ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  OF CUSTODY RECORD  OF CUSTODY RECORD				TestAmerica Savannah 5102 LaRoche Avenue Savannah, GA 31404  Website: www.testamericainc.com Phone: (912) 354-7858 Fax: (912) 352-0165					om			
					⊃ Altei	nate Lab	oratory Name/Lo	ocation	Phone:			
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CLOCK / GOLDER TRUMPOS QUE	souper.Com	땅	QI.	AIR NONAQUEOUS LIQUID (OIL, SOLVENT,)	089	सेवश म				DELIVEI (SURCH	RY Arge)	$   \bigotimes_{i,j} $
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# **Login Sample Receipt Check List**

Client: Golder Associates Inc. Job Number: 680-56602-2

Login Number: 56602 List Source: TestAmerica Savannah

Creator: Daughtry, Beth List Number: 1

Question	T / F/ NA Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A
The cooler's custody seal, if present, is intact.	True
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
There are no discrepancies between the sample IDs on the containers and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A
If necessary, staff have been informed of any short hold time or quick TAT needs	True
Multiphasic samples are not present.	N/A
Samples do not require splitting or compositing.	N/A
Is the Field Sampler's name present on COC?	False
Sample Preservation Verified	True



# ANALYTICAL REPORT

Job Number: 680-56921-1

Job Description: Anniston Landfill - SSR1-11S-15 4/20/10

For:

Golder Associates Inc. 3730 Chamblee Tucker Road Atlanta, GA 30341

Attention: Mr. Tim Richards

Lideja galicia

Approved for release Lidya Gulizia Project Manager I 4/23/2010 5:12 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
04/23/2010

cc: Ms. Lori Anne Hendel Mr. Steve Moeller

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q



#### Job Narrative 680-56921-1 Final Report

#### Receipt

All samples were received in good condition within temperature requirements.

#### GC/MS Semi VOA

No analytical or quality issues were noted.

#### GC Semi VOA

Method(s) 8081A\_8082: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 680-166343 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8081A\_8082: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: SSR1-11-S-15 (680-56921-2).

No other analytical or quality issues were noted.

#### **General Chemistry**

No analytical or quality issues were noted.

#### Comments

This report contains final results for both Method 8082 PCB analysis as Aroclors and Method 680 sample analyses for PCB Homologs.

No additional comments.

## **METHOD SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56921-1

Description	Lab Location	Method	d Preparation Method	
Matrix Solid				
Polychlorinated Biphenyls (PCBs) (GC/MS)	TAL SAV	EPA 680		
Extraction (Solid PCBs)	TAL SAV		EPA 680	
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081	A_8082	
Ultrasonic Extraction	TAL SAV		SW846 3550B	

#### Lab References:

TAL SAV = TestAmerica Savannah

#### Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

# METHOD / ANALYST SUMMARY

Client: Golder Associates Inc. Job Number: 680-56921-1

Method	Analyst	Analyst ID
EPA 680	Davis, Nancy	ND
SW846 8081A_8082	Kellar, Joshua	JK

# **SAMPLE SUMMARY**

Client: Golder Associates Inc. Job Number: 680-56921-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
680-56921-1	SSR1-11-S-15-3	Solid	04/20/2010 1430	04/21/2010 0917
680-56921-2	SSR1-11-S-15	Solid	04/20/2010 1050	04/21/2010 0917

# **SAMPLE RESULTS**

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15-3

Lab Sample ID:

680-56921-1

Client Matrix:

Solid

% Moisture:

17.6

Date Sampled: 04/20/2010 1430

Date Received: 04/21/2010 0917

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: Preparation: 680 680 Analysis Batch: 680-166543 Prep Batch: 680-166341

Instrument ID: Lab File ID:

MSF N/A

Dilution: 1.0 Date Analyzed:

04/22/2010 1335

Initial Weight/Volume: Final Weight/Volume:

30.34 g 1 mL

Date Prepared:

04/21/2010 1725

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<4.0		0.23	4.0
Dichlorobiphenyl		<4.0		0.42	4.0
Trichlorobiphenyl		<4.0		0.20	4.0
Tetrachlorobiphenyl		<8.0		0.44	8.0
Pentachlorobiphenyl		<8.0		0.41	8.0
Hexachlorobiphenyl		1.1	J	0.40	8.0
Heptachlorobiphenyl		<12		0.60	12
Octachlorobiphenyl		<12		0.64	12
Nonachlorobiphenyl		<20		1.1	20
DCB Decachlorobiphenyl		<20		1.0	20
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Decachlorobiphenyl-13C12		71		30 - 130	()

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15

Lab Sample ID:

680-56921-2

Client Matrix:

04/22/2010 1407

04/21/2010 1725

Solid

% Moisture:

17.2

Date Sampled: 04/20/2010 1050

Date Received: 04/21/2010 0917

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

680 680 10

Analysis Batch: 680-166543

Prep Batch: 680-166341

Instrument ID: Lab File ID:

MSF N/A

Initial Weight/Volume: Final Weight/Volume:

30.07 g 1 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Monochlorobiphenyl		<40		2.3	40
Dichlorobiphenyl		<40		4.2	40
Trichlorobiphenyl		6.0	J	2.0	40
Tetrachlorobiphenyl		200		4.5	81
Pentachlorobiphenyl		1400		4.1	81
Hexachlorobiphenyl		2200		4.0	81
Heptachlorobiphenyl		1400		6.0	120
Octachlorobiphenyl		920		6.4	120
Nonachlorobiphenyl		730		11	200
DCB Decachlorobiphenyl		1500		10	200
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Decachlorobiphenyl-13C12		44		30 - 130	

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15-3

Lab Sample ID:

680-56921-1

Client Matrix:

Solid

% Moisture:

17.6

Date Sampled: 04/20/2010 1430

Date Received: 04/21/2010 0917

8081A_8082	2 Organochlorine	Pesticides	& PCBs	(GC)
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Method: Preparation: 8081A\_8082

Analysis Batch: 680-166409

Instrument ID: Initial Weight/Volume: SGZ 15.41 g

Dilution:

3550B 1.0

Prep Batch: 680-166343

Final Weight/Volume: Injection Volume:

5 mL 2 uL

Date Analyzed: Date Prepared:

04/22/2010 0959 04/21/2010 1755

Result Type:

PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<39		3.4	39
PCB-1221		<79		5.7	79
PCB-1232		<39		3.9	39
PCB-1242		<39		3.3	39
PCB-1248		<39		8.5	39
PCB-1254		9.6	J	2.7	39
PCB-1260		11	J	7.9	39
PCB-1268		5.0	J	2.0	39
Surrogate		%Rec	Qualifier	Acce	ptance Limits
Tetrachloro-m-xylene		28		26 - 1	140
DCB Decachlorobiphenyl		74		50 - 1	129

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15-3

Lab Sample ID:

680-56921-1

Client Matrix: Solid % Moisture:

17.6

Date Sampled: 04/20/2010 1430

Date Received: 04/21/2010 0917

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082

Analysis Batch: 680-166409

Instrument ID:

SGZ

Preparation:

3550B

Prep Batch: 680-166343

Initial Weight/Volume: Final Weight/Volume:

15.41 g

Dilution: 1.0 Date Analyzed:

04/22/2010 0959

Injection Volume:

5 mL 2 uL

Date Prepared:

04/21/2010 1755

Result Type:

SECONDARY

Surrogate %Rec Qualifier Acceptance Limits Tetrachloro-m-xylene 25 X 26 - 140 DCB Decachlorobiphenyl 68 50 - 129

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15

Lab Sample ID:

680-56921-2

Client Matrix:

Solid

% Moisture:

17.2

Date Sampled: 04/20/2010 1050

Date Received: 04/21/2010 0917

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082

Analysis Batch: 680-166409

Instrument ID:

SGZ

Preparation:

3550B

Prep Batch: 680-166343

Initial Weight/Volume:

15.04 g

Dilution: Date Analyzed: 100

Final Weight/Volume: Injection Volume:

5 mL 2 uL

Date Prepared:

04/22/2010 1016 04/21/2010 1755

Result Type:

PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		<4000		350	4000
PCB-1221		<8100		580	8100
PCB-1232		<4000		400	4000
PCB-1242		<4000		340	4000
PCB-1248		<4000		870	4000
PCB-1254		11000		280	4000
PCB-1260		14000		810	4000
PCB-1268		12000		200	4000
Surrogate		%Rec	Qualifier	Accepta	nce Limits
Tetrachloro-m-xylene		0	D	26 - 140	
DCB Decachlorobiphenyl		0	D	50 - 129	

Client: Golder Associates Inc. Job Number: 680-56921-1

Client Sample ID:

SSR1-11-S-15

Lab Sample ID:

680-56921-2

Client Matrix:

Solid

% Moisture:

17.2

Date Sampled: 04/20/2010 1050

Date Received: 04/21/2010 0917

8081A\_8082 Organochlorine Pesticides & PCBs (GC)

Method:

8081A\_8082

Analysis Batch: 680-166409

Instrument ID:

SGZ

Preparation:

3550B

Prep Batch: 680-166343

Initial Weight/Volume:

15.04 g

Dilution:

100

Final Weight/Volume:

Date Analyzed:

04/22/2010 1016

Injection Volume:

5 mL 2 uL

Date Prepared:

04/21/2010 1755

Result Type:

SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene	0	D	26 - 140	
DCB Decachlorobiphenyl	0	D	50 - 129	

# **DATA REPORTING QUALIFIERS**

Client: Golder Associates Inc. Job Number: 680-56921-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate is outside control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

# **QUALITY CONTROL RESULTS**

Client: Golder Associates Inc. Job Number: 680-56921-1

# **QC Association Summary**

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 680-166341					
_CS 680-166341/4-A	Lab Control Sample	T	Solid	680	
MB 680-166341/3-A	Method Blank	T	Solid	680	
880-56921-1	SSR1-11-S-15-3	<b>T</b> .	Solid	680	
680-56921-1MS	Matrix Spike	T	Solid	680	
680-56921-1MSD	Matrix Spike Duplicate	T	Solid	680	
680-56921-2	SSR1-11-S-15	T	Solid	680	
Analysis Batch:680-1665	543				
_CS 680-166341/4-A	Lab Control Sample	T	Solid	680	680-166341
MB 680-166341/3-A	Method Blank	T	Solid	680	680-166341
880-56921-1	SSR1-11-S-15-3	T	Solid	680	680-166341
680-56921-1MS	Matrix Spike	T	Solid	680	680-166341
880-56921-1MSD	Matrix Spike Duplicate	T	Solid	680	680-166341
880-56921-2	SSR1-11-S-15	T	Solid	680	680-166341
300-30921-2					
Report Basis T = Total					
Report Basis					
Report Basis T = Total GC Semi VOA Prep Batch: 680-166343		_			
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A	Lab Control Sample	Ţ	Solid	3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A	Lab Control Sample Method Blank	Ť	Solid	3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1	Lab Control Sample Method Blank SSR1-11-S-15-3	T T	Solid Solid	3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1  680-56921-1MS	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike	T T	Solid Solid Solid	3550B 3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1  680-56921-1MS  680-56921-1MSD	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate	T T T	Solid Solid Solid Solid	3550B 3550B 3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1  680-56921-1MS	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike	T T	Solid Solid Solid	3550B 3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A 680-56921-1 680-56921-1MS 680-56921-1MSD 680-56921-2  Analysis Batch:680-1664	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15	T T T T	Solid Solid Solid Solid Solid	3550B 3550B 3550B 3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A 680-56921-1 680-56921-1MS 680-56921-1MSD 680-56921-2	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15	T T T T	Solid Solid Solid Solid	3550B 3550B 3550B 3550B	680-166343
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A 680-56921-1 680-56921-1MS 680-56921-1MSD 680-56921-2  Analysis Batch:680-1664	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15	T T T T T	Solid Solid Solid Solid Solid	3550B 3550B 3550B 3550B 3550B 8081A_8082 8081A_8082	680-166343 680-166343
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1  680-56921-1MS  680-56921-2  Analysis Batch:680-1664  _CS 680-166343/4-A	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15  409 Lab Control Sample	T T T T	Solid Solid Solid Solid Solid	3550B 3550B 3550B 3550B 3550B	
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  _CS 680-166343/4-A  MB 680-166343/3-A  680-56921-1  680-56921-1MSD  680-56921-2  Analysis Batch:680-1664  _CS 680-166343/4-A  MB 680-166343/3-A	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15  409 Lab Control Sample Method Blank	T T T T T	Solid Solid Solid Solid Solid Solid	3550B 3550B 3550B 3550B 3550B 8081A_8082 8081A_8082	680-166343
Report Basis T = Total  GC Semi VOA  Prep Batch: 680-166343  CS 680-166343/4-A  MB 680-166343/3-A 680-56921-1 680-56921-1MSD 680-56921-2  Analysis Batch:680-1664  CS 680-166343/4-A  MB 680-166343/3-A 680-56921-1	Lab Control Sample Method Blank SSR1-11-S-15-3 Matrix Spike Matrix Spike Duplicate SSR1-11-S-15  409  Lab Control Sample Method Blank SSR1-11-S-15-3	T T T T T	Solid Solid Solid Solid Solid Solid Solid Solid	3550B 3550B 3550B 3550B 3550B 8081A_8082 8081A_8082 8081A_8082	680-166343 680-166343

## Report Basis

T = Total

Client: Golder Associates Inc. Job Number: 680-56921-1

# **Surrogate Recovery Report**

## 680 Polychlorinated Biphenyls (PCBs) (GC/MS)

## Client Matrix: Solid

		13DCB
Lab Sample ID	Client Sample ID	%Rec
680-56921-1	SSR1-11-S-15-3	71
680-56921-2	SSR1-11-S-15	44
MB 680-166341/3-A		66
LCS 680-166341/4-A		81
680-56921-1 MS	SSR1-11-S-15-3 MS	75
680-56921-1 MSD	SSR1-11-S-15-3 MSD	79

Surrogate Acceptance Limits

13DCB = Decachlorobiphenyl-13C12

30-130

Client: Golder Associates Inc. Job Number: 680-56921-1

# **Surrogate Recovery Report**

## 8081A\_8082 Organochlorine Pesticides & PCBs (GC)

## Client Matrix: Solid

		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	%Rec	%Rec	%Rec	%Rec
680-56921-1	SSR1-11-S-15-3	25X	28	68	74
680-56921-2	SSR1-11-S-15	0D	0D	0D	0D
MB 680-166343/3-A		73	76	76	79
LCS 680-166343/4-A		78	81	80	83
680-56921-1 MS	SSR1-11-S-15-3 MS	28	28	76	77
680-56921-1 MSD	SSR1-11-S-15-3 MSD	24X	24X	76	78

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	26-140
DCB = DCB Decachlorobiphenyl	50-129

Client: Golder Associates Inc. Job Number: 680-56921-1

Method Blank - Batch: 680-166341

Method: 680 Preparation: 680

Lab Sample ID: MB 680-166341/3-A Analysis Batch: 680-166543 Instrument ID: MSF

Client Matrix: Solid Prep Batch: 680-166341 Lab File ID: N/A
Dilution: 1.0 Units: ug/Kg Initial Weight/Volume:

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 30.30 g
Date Analyzed: 04/22/2010 1229 Final Weight/Volume: 1 mL

Date Prepared: 04/21/2010 1725 Injection Volume:

Analyte	Result	Qual	MDL	RL	
Monochlorobiphenyl	<3.3		0.19	3.3	
Dichlorobiphenyl	<3.3		0.35	3.3	
Trichlorobiphenyl	<3.3		0.17	3.3	
Tetrachlorobiphenyl	<6.6		0.37	6.6	
Pentachlorobiphenyl	<6.6		0.34	6.6	
Hexachlorobiphenyl	<6.6		0.33	6.6	
Heptachlorobiphenyl	<9.9		0.50	9.9	
Octachlorobiphenyl	<9.9		0.52	9.9	
Nonachlorobiphenyl	<17		0.92	17	
DCB Decachlorobiphenyl	<17		0.82	17	
Surrogate	% Rec		Acceptance Limits		
Decachlorobiphenyl-13C12	66		30 - 130		

Lab Control Sample - Batch: 680-166341 Method: 680
Preparation: 680

Lab Sample ID: LCS 680-166341/4-A Analysis Batch: 680-166543 Instrument ID: MSF

Client Matrix: Solid Prep Batch: 680-166341 Lab File ID: N/A

Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 30.35 g
Date Analyzed: 04/22/2010 1302 Final Weight/Volume: 1 mL

Date Prepared: 04/21/2010 1725 Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Monochlorobiphenyl	65.9	46.4	70	30 - 130	
Dichlorobiphenyl	65.9	49.5	75	30 - 130	
Trichlorobiphenyl	65.9	50.8	77	30 - 130	
Tetrachlorobiphenyl	132	94.7	72	40 - 140	
Pentachlorobiphenyl	132	102	77	40 - 140	
Hexachlorobiphenyl	132	92.2	70	40 - 140	
Heptachlorobiphenyl	198	145	74	40 - 140	
Octachlorobiphenyl	198	143	72	40 - 140	
DCB Decachlorobiphenyl	329	171	52	30 - 130	
Surrogate	% F	lec	Acc	ceptance Limits	
Decaphorohiphopyl 13C12	0.1			20 120	

Decachlorobiphenyl-13C12 81 30 - 130

Client: Golder Associates Inc. Job Number: 680-56921-1

Matrix Spike/ Method: 680 Matrix Spike Duplicate Recovery Report - Batch: 680-166341 Preparation: 680

MS Lab Sample ID: 680-56921-1 Analysis Batch: 680-166543 Instrument ID: MSF Client Matrix: Solid Prep Batch: 680-166341 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 30.37 g

04/22/2010 1439 Date Analyzed: Final Weight/Volume: 1 mL 04/21/2010 1725 Date Prepared:

Injection Volume:

MSD Lab Sample ID: 680-56921-1 Analysis Batch: 680-166543 Instrument ID: MSF Client Matrix: Solid Prep Batch: 680-166341 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 30.32 g

Date Analyzed: 04/22/2010 1512 Final Weight/Volume: 1 mL

Date Prepared: 04/21/2010 1725 Injection Volume:

	<u>%</u>	6 Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Monochlorobiphenyl	57	60	30 - 130	6	50		
Dichlorobiphenyl	63	68	30 - 130	8	50		
Trichlorobiphenyl	67	71	30 - 130	6	50		
Tetrachlorobiphenyl	60	64	40 - 140	7	50		
Pentachlorobiphenyl	70	74	40 - 140	7	50		
Hexachlorobiphenyl	62	65	40 - 140	5	50		
Heptachlorobiphenyl	66	70	40 - 140	5	50		
Octachlorobiphenyl	68	73	40 - 140	7	50		
DCB Decachlorobiphenyl	50	52	30 - 130	4	50		
Surrogate		MS % Rec	MSD	% Rec	Acce	ptance Limits	
Decachlorobiphenyl-13C12		75	79		3(	0 - 130	

Job Number: 680-56921-1

Client: Golder Associates Inc.

Method Blank - Batch: 680-166343 Method: 8081A\_8082

Preparation: 3550B

Lab Sample ID: MB 680-166343/3-A Analysis Batch: 680-166409 Instrument ID: SGZ Client Matrix: Prep Batch: 680-166343 Solid Lab File ID: zd22005.d

Dilution: Units: ug/Kg Initial Weight/Volume: 1.0 15.08 g Date Analyzed: 04/22/2010 0925 Final Weight/Volume: 5 mL Date Prepared: 04/21/2010 1755 Injection Volume: 2 uL

Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	<33	=	2.9	33
PCB-1221	<67		4.8	67
PCB-1232	<33		3.3	33
PCB-1242	<33		2.8	33
PCB-1248	<33		7.2	33
PCB-1254	<33		2.3	33
PCB-1260	<33		6.7	33
PCB-1268	<33		1.7	33
Surrogate	% Rec		Acceptance Limits	
Tetrachloro-m-xylene	76		26 - 140	
DCB Decachlorobiphenyl	79		50 - 129	
Surrogate	% Pec		Accentance Limits	

Surrogate Acceptance Limits % Rec Tetrachloro-m-xylene 73 26 - 140 DCB Decachlorobiphenyl 76 50 - 129

Lab Control Sample - Batch: 680-166343 Method: 8081A\_8082 Preparation: 3550B

Analysis Batch: 680-166409 Instrument ID: SGZ

Lab Sample ID: LCS 680-166343/4-A Client Matrix: Solid Prep Batch: 680-166343 Lab File ID: zd22006.d Dilution: Units: ug/Kg Initial Weight/Volume: 1.0 15.01 g

Date Analyzed: 04/22/2010 0942 Final Weight/Volume: 5 mL 2 uL Date Prepared: 04/21/2010 1755 Injection Volume: Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	333	265	80	43 - 136	
PCB-1260	333	282	85	53 - 133	
Surrogate	% R	ec	Ace		
Tetrachloro-m-xylene	81				
DCB Decachlorobiphenyl	83			50 - 129	
Surrogate	% R	% Rec Acceptance Limits			
Tetrachloro-m-xylene	78			26 - 140	
DCB Decachlorobiphenyl	80				

Client: Golder Associates Inc. Job Number: 680-56921-1

Matrix Spike/ Method: 8081A\_8082
Matrix Spike Duplicate Recovery Report - Batch: 680-166343 Preparation: 3550B

680-56921-1 MS Lab Sample ID: Analysis Batch: 680-166409 Instrument ID: SGZ Client Matrix: Solid Prep Batch: 680-166343 Lab File ID: zd22009.d Dilution: 1.0 Initial Weight/Volume: 15.01 g 04/22/2010 1034 Date Analyzed: Final Weight/Volume: 5 mL Date Prepared: 04/21/2010 1755 Injection Volume: 2 uL Column ID: **PRIMARY** 

 MSD Lab Sample ID:
 680-56921-1
 Analysis Batch:
 680-166409
 Instrument ID:
 SGZ

 Client Matrix:
 Solid
 Prep Batch:
 680-166343
 Lab File ID:
 zd22010.d

 Dilution:
 1.0
 Initial Weight/Volume:
 15.12 g

 Date Analyzed:
 04/22/2010 1051
 Final Weight/Volume:
 5 mL

 Date Prepared:
 04/21/2010 1755
 Injection Volume:
 2 uL

 Column ID:
 PRIMARY

% Rec. MSD Analyte MS Limit RPD **RPD Limit** MS Qual MSD Qual PCB-1016 37 43 - 136 35 5 50 F PCB-1260 70 70 53 - 133 0 50 MSD % Rec Surrogate MS % Rec Acceptance Limits 28 Tetrachloro-m-xylene 24 X 26 - 140 DCB Decachlorobiphenyl 77 78 50 - 129 Surrogate MS % Rec MSD % Rec Acceptance Limits Tetrachloro-m-xylene 28 24 X 26 - 140 DCB Decachlorobiphenyl 76 76 50 - 129

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ANALYSIS REQUEST AND CHAIN OF CUSTODY F	RECORD	) }	<sup>23</sup> 51	stAmer 02 LaRo vannah	oche Av	enue				F	Phone:	(912)	v.testan 354-78 2-0165		com	
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PROJECT REFERENCE PROJECT NO. PROJECT LOCATION OY3-3746003 (STATE) A	MATI TYP			Z		REQ	UIRED	ANALYS	IS				PAGE		·OF	***************************************
TAL (LAB) PROJECT MANAGER  LIDYA  CLIENT (SIPE) PM  CLIENT PHONE  845-300-8703  CLIENT FAX  CLIENT FAX	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID	AIR MONACHEOLIGI LIQUIS COLUMNIA	8092 PCB	289									DELIV D EXPE DELIV (SURC	ATE DUE . DITED REF ERY CHARGE) ATE DUE .	CONT XX ANAL	
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RECEIVED FOR LABORATORY BY: (SIGNATURE)  DATE  TIME  CUSTODY INTACT  YES  NO  NO  O  O  O  O  O  O  O  O  O  O	CUSTODY SEAL NO.	(	SAVAN LOG N	0. 68	0- 1	LABORAT	ORY F	REMARK	S [7.	èn	P	3.8	<u>ව</u>			

# **Login Sample Receipt Check List**

Client: Golder Associates Inc. Job Number: 680-56921-1

Login Number: 56921 List Source: TestAmerica Savannah

Creator: Daughtry, Beth

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.8 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

APPENDIX C

**Waste Manifests** 

May 2010

# WASTE MANIFEST SUMMARY TABLE ANNISTON PCB SITE - OPERABLE UNIT 3

Waste Manifest Tracking Number	Date Transported	Total Quantity (KG)	Total Quantity (LB)
004176656	4/16/2010	14,334	31,606
004176658	4/13/2010	14,170	31,245
004176659	4/16/2010	14,615	32,226
004176660	4/16/2010	14,080	31,046
004176661	4/29/2010	15,000	35,440
Total		72,199	161,564

KG = Kilograms (as indicated on manifests).

LB - Pounds.

Quantity listed on manifest for 004176661 is shown as estimated kilograms. Actual quantity is provided in pounds on the included weigh ticket.

		79%:		. , ,	Mintale a		•	•		
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1	11	WASTE MANIFEST AL DOAD 1904-8	2 Page 1 of 3 Em	o) 424-	Phone	4. Manifest		6656	JJ	K
	G	Generator's Name and Making Address  Solutive The ANNISTEN FCB Standard Phone (25to) 231-8400 192 Chydes delle Transporter 1 Company Name  Robb	General Fig. 1	nor's Site Address		an mailing addres	•	D06113	39	91
$\ $	7.	Transporter 2 Company Name	44			U.S. EPA ID N	umber			
		Designated Facility Name and Site Address Chemical Waste Excelle Facility Alyabama Highwa Holly's Phone (205) 652-9721 Emelle, Ali 3	g Haway Vay 196 N 5459	<del>smeri 1</del> Isle Mes	the stre	U.S. EPAIDN	) <i>ODC</i>	62246	4	
H	9 H	90. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number,		10. Contair	Type	11. Total Quantity	12. Unit Wit./Vol.	13. Waste	Codes	
GENERATOR -		1-RO, ENVIRONMENTALLY HAZARDOUS SYL Solid, N.D.S., 9, UK 3077, TIL, (Polyton Bipheniuls)	chlorium	001	CM	(EST.)	Ka.	PC	e	
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		masted and labelediplacarded, and are in all respects in proper condition for transport according to the contents of this consignment conform to the terms of the attached I certify that the waste minimization at alternated to minimize the content of the statement identified in 40 CFR 282.27(a) (if I am a large	ording to applicable into d EPA Acknowledgment	minternal and note of Consent.	onal governm	ental regulations.				
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E	_		f				-	1 1		
	_	Discrepancy								***
1		Discrepancy  Discrepancy Indication Space Quantity Type  Occasion of December 11 per Jerry Hope	0es. 14114103	Residue	Number:	Partial Reje	ction	· Dr	II Rejecti	on
)(LITY	18a		0es. 14114103	5	Number:	Partial Reje		· Ds	II Rejecti	on
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	5 G	Generator's Name and Mailing Additional Reports of Phone: (25)	31-8400 An	LUTIA ING. NISTON PCB 2. Chydes dife VNISTON AU	Site Ave. 36201	Generator's Sile Addres	s (if dillerent tha	an mailing addre		1	
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	9 H	and Packing Group (if any))		~		10, Cont	liners Type	11. Yotal Quantity	12. Unit Wt./Vol.	13. Waste	Codes
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1	18.	Discrepency									
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SNATE				. *						Month	
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1	20.	Designated Facility Owner or Oper	Non-Certification of receipt	of hazardous materials covere	d by the manifes	t except as noted in the	m 18a				
1		SUCIO F	Backher	ad	Signe	Judiá-	1/2	nKF	had	Warn L	14/10
PA	Fo	m 8700-22 (Rev. 3-05) Pravio	us editions are obsolete.			1 1	DE	SIGNATE	D FACIL	ITY TO GE	NERATOR

		C/ W	-1- pr	.1	, .	••			
Ď	Pase p	print or type. (Form designed for use on effite (12-pitch) type writer.) Sould it & Marife UPORNI HAZARDOUS   1. Generator ID Number   Z. Page 1 of   3. Em	ST TE 10 = 0	013 hone	4. Manifest		Approved. OM	3 No. 2	050-0039
		MASTE MANIFEST   ALD 0040 19048   1 180	0)424-9	300	00	417	<u>6659</u>	IJ	K_
I	3.6	Seniorator's Nume and Hailing Address Solution Tale.  Actual Syrand PCB Site	alor's time Address (#	derent Bran	meiling address	15)			
II	12	ANNISTON PCB Site 56) 231-8400 782 Clydesdale Ave. MANISTON PCB Site 56) 231-8400 782 Clydesdale Ave.							٠
Ш	6. Tr	Parisponer   Company Planne			U.S.EPAIDN	A CO	17.06[]	100	91
Ш	7.11	Managorier 2 Company Name			U.S. EPAID N	WUL	W This		
П	A De	esignated Facility Name and She Address (Bennice L Waste Municipe	menti. I	106.	U.S. EPAID N	humber			
П	1	Emelle Facility Say	41 .4	11 %	W.S. CINION	onioci			
	20	5) 652-9721 Alebama Highway 17 a Mile	MARKER I	165	ALD	000	6224	64	4
	HIM 8.2°		10. Containers No.	Type	11. Total Quantity	12. Unit WEAGI.	13. Waste	Codes	
8	V	Spirit, NO. S., 9, UN 2017, TIL, (Blychloring)		1	251.)	1-1			
GENERATOR	$ \Lambda $	Riplewyls)	001		16 600	Kg.	R	Bs	
8		2 / / /	· Int lot.	. ]	4,615	- 1	•	4	
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	14.5	pecial Handling Instructions and Additional Information	- 12		Care		920) 424	9:	300
ľ	Cu	pedal Handling Instructions and Additional Information DEM DISPOSAL A 113011-B003 SR # 92852 Um Profile # BK-3714 FPG-171	28 OUT	or L	nvice	Dete	900) 424	20	10
۱	P.C	). # (New-pending) PCB Labels 11 3097 pla	cands St	412 OF	Goton	ARIDA	: ALAb	ame	4
	,	GENERATOR'S JOFFEROR'S CERTIFICATION: I hereby declars that the contents of this consignment the fully marked and labeled/placarded, and are in all respects in proper condition for transport according to segment be	and accurately descri emational and nationa	bed above by	the proper shi	pping nume	, and are classified	peckag	jed,
	1	Exporter, I certify that the contents of this consignment conform to the terms of the attached EPAActorowindgment I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or	t (b) (it) yu a saway di	naugh Benet	gror) is true.		- D		V
1			enu O.	b	Abbe	مجدة	04	16	16
M		Normalional Shighments Import to U.S. Export from U.S.	Port of entry/o		11				
_	17. Tr	ransporter Acknowledgment of Receipt of Makerials	1	7	/		*	-	
PORT	Transp	porter 1 Printed Typed Name  Signature  LIST SELECTION  Signature	inla 7	ansh	· · · · · · · · · · · · · · · · · · ·		Month	Day	Yew 10
TRANSPORTER	Transi	porter 2 Printed Typed Name Signature	1	100	1		Month	Day	Year
+	18. Di:	screpancy.			~				
			<b>-</b>	Г	Tour	etion	□ <sub>F</sub>	di Rojec	tion
	18a. D		Residue	L	Partial Reje	-00011			
1	10	Discrepancy indication space Quantity Type Trace led hig, wit per Jerry Hupper, 4/10/10 5	Residue	mber:					_
	10	Obsersponcy Indication Space Quantity Type Trype Trype Torry Flupper, 4/10/1036		nnber:	U.S. EPAID N			•	
D FACILITY -	18b. A	Obsersponcy Indication Space Quantity Type  Orrected High with per Jerry Huppen, 4/10/10 5 B  Wiemaio Facility (or Generator)  N'S Phone:		mber:				Dev	You
MATED FACILITY -	18b. A	Obsersponcy Indication Space Quantity Type  Overeted High with per Jerry Huppen, 4/10/10 5 B  Wernato Facility (or Generator)		mber:			Month	Dey	Year
RESIGNATED FACILITY -	185. A Pacility 18c. 3	Obsersponcy Indication Space Quantity Type  Orrected High with per Jerry Huppen, 4/10/10 5 B  Wiemaio Facility (or Generator)  N'S Phone:	isualest Reference No.	nriber:			Month	Dey	Year
<ul> <li>DESIGNATED FACILITY</li> </ul>	18b. A Pacility 18c. 3 19. Hz	Discrepency Indication Space Quantity Type  Original Registry (or Generalor)  We prome:  Signature of Alternate Facility (or Generalor)  azardous Waste Report Management Method Codes (i.e., codes for hazardous waste treetment, disposal, and re	isualest Reference Ma				Month	Day	Yes
DESIGNATED FACILITY -	18b. A Pacility 18c. 3 19. Ha 1.	Obserspency Indication Space Quantity Type  Oracle lead History per Jean y Hupper. 4/10/10 5 6  Wernate Facility (or Generator)  N's Phone:  Signature of Alternate Facility (or Generator)	isualest Reference Ma				Month	Day	Yen

P	lean	e print or type. (Form design	ned for use on elite (12-pitch)	typewritor.) Soluto	ia Man	ifest &	10-0	15	Form	Approved.	OMB'No.	2050-0039
ľ	1	INFORM HAZARDOUS WASTE MANIFEST	1: Gernerator 10 Number ALD OOAD 1904	. :	2, Page 10f 3.	Emergency Respins	Phone	4. Manifest		666	O J	JK
		Generator's Name and Mailin	Andress School And 102	itia Inc. Steni PCB S Objuerdale A	ite ive.	iorntor's Site Address						
	9 6	. Transporter 1 Company Bare	-	i <del>sron, Al 36</del> Robbie I		J		U.S. EPA ID	Number A	1)00	139	891
П	7.	Transporter 2 Company blum	SOURCES, MYC	NUDIC 4	2. Woo	<u>a</u>		U.S. EPAID	Minister Minister	010	9/	_
I	8.	Designated Facility Name and	GERTI.	ical Wage	Nanage	ment, JA	ic,	U.S. EPA 10	fermber .			
П		6 \ .	Enjel Alab	He Facility	44 19 0	Mile Mak	thre 1	63	100	f new	<i>111</i>	
11		scille/s Phone: (205) 65 b. 9b. U.S. DOT Description	n (Including Proper Shipping Marre	, Hazard Class, ID Number,	9459	10. Conteiners 11. Total 12. Unit 10. West 10. West 10.						
	F	and Packing Group (It as	umentally Rus	LARdoys Su	DSTANCE	No.	Туре	Quantity	WL/Vol.	15. 11	18914 (1008	
GENERATOR	1	Solid, N.O.	NMENTATO FUE 5., 9, UNASOTT	, III, (Polychia	ninaged	001	cm	(EST.) 18000	Ka.	$\neg \neg$	RBs	
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	H	4.				+						
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	14. Special Handing Instructions and Additional Information  ADEM Disposed H. 112011-BOO3  COUNT Profile # BK-3714 ERG-171  LO # (New-Desiding) RB Labels \ SM-3017 placands State of Generations:								424 - 5 4 1 10 N : L	1300 3300 Unba	lo mA	
	15.	marked and inhelediplacard Exporter, I centify that the op-	SCERTFICATION: I heleby dec ed, and are in all respects in prope wheres of the consignment confer ization statement identified in 40	in that the contents of this is condition for branching the condition for branching the attached in the attached	consignment are for rding to applicable LEPA Acknowledge	By and accurately de- international and nati tent of Consent.	onal govern	nental regulations.	ipping name If export shi	, and are class present and I as	fied, pado in the Prim	rged. Ily
Ų	Ge	Herator's Officeror's Printed Type	O. HOOPER		Signator	Terres O.	70	blan		Month Lo-4	116	Year 1/0
M	1	International Shipments  anaporter eignature (for exporter	Import to U.S.		Export from U.S.	Port of en	try/exit:		~			_
_	_	Transporter Acknowledgment on insporter JuPintol Typed Name	of Receipt of Materials		Signatur			1		Mond	b Dsy	Year
TRANSPORTER		( ARAL	11 110,140	20)	16	SIL	(1)	1		104	16	110
TRAIN	"	reporte) 2 Printed Typed Name			Signatur					Mons	n Day	Year
1	$\overline{}$	Discrepancy  Discrepancy Indication Space	€ ∏ Dropolities	Пли		Residue		Partial Rej	·	Г	Full Reje	
	1	preceded with	Der Jerry Hop	ver. 4/16/10 3	Ø	Manifest Reference	Number		perion.	_	a ran rege	-: -:
LIT	188	. Attempte Facility (or General	or)			meane se i solorpires	1101110-01.	U.S. EPAID N	lumber	•	:	
D FAC		ality's Phone: : Signature of Allemato Facility	Las Ceneratora		-	····		1		Moo	th Day	Year
DESIGNATED FACILITY				•						Mon		1
DESK	19.	Hazardous Waste Report Man	agement Method Codes (i.e., cod	es for hazardous waste treat	nent, disposal, and	recycling systems)		4.			-	
1	20.	Designated Facility Owner or	Operator: Certification of receipt of	hazardous malerials covere	by the manifest of	coup) as noted in item	1887					
		med Librah Union	Ackor		Signatur			o Ja	2	Mogo	117	Year
EP/	For	nn 8700-22 (Rev. 3-05) Pri	evious aditions are obsolete.		()	V V VV	D	ESIGNATE	D FACI	LITY TO	GENE	RATOR

Pk	:830	print or type. (Form des	igned for use on e	lite (12-pitch) typewi	mer.) Schuris	Madi	Est	#10-6	016		For	n Approved.	OM8 No.	2050-0039
1		NIFORM HAZARDOUS WASTE MANIFEST		unber 4019048		2. Page 1 of	3. Eme	9 424		4. Manifest	fracking h	666		JK
	Ge	Generalor's Name and Ma	231-8 <b>4</b> 00	Solutio :	Inc. 1 PCB Site 1 Selection of the Selec	01	General			then maliling address	<b>w</b> ) .			
H	10.	scaueboson, a Combanh sa	MIC						111111	U.S. EPAID		072	37	
		ACTION KES Transporter 2 Complety Na								U.S. EPAIDA		J 101		
	8. Designated Facility Name and Sile Address  Chemicals Waste Management, Jule;  U.S. EPA ID Number  Encility Phone (205) 652 - 9721 Encile; Hu 185459  94. Sp. U.S. DOT Description (including Proper Shipping Name, Hazard Chare, ID Number;  10. Containers  11. Total 12. Unit 13. Whate Codes													
			ion (including Proper	Shipping Name, Hazar	ed Class, ID Number,	3437		10. Contain	Déls		12. Unit		Nasta Code	 i
	H	1. RO. ENVIRO	ommentali	1 Hazaka 1 3077, II	bus Sug	STANCE	2,	No.	Туре	(EST.)	WL/vol.	i		-
GENERATOR	X	Biohenve	13., 9, 41	(13097, ID	L, Holyeni	oring	red	001	cm	15000	Kar		PCB=	
SENE	Γ	2.	9				$\neg$	001		,,,,,,	1			
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	14.3	Special Handling Instruction	es and Additional info	amation ) a	2014 0400	Lan 50	7/2	1				Bio	10A.G	der.
ŀ	Ą	Upu Disposal	# 113011 # AV- 4914	- B003	RR# 9291	22 V	7		GINERAY OUT OF	eney Cons	June .	-4/2	7/20	10
	Z	D. # (1300-7	ending)		ce behals	un 301	704		-				<b>A</b> -	
	15.	GENERATOR'S/OFFER	on's centrefortino inded, and are in all re	N: I hereby declare the espects in proper condi-	at the contente of this tion for transport acco	consignment a ording to applic	ne fêlly ar able inten	nd accurately dem national and nati	ecribed abov	aby the proper shi	pping mame	, and are class	oified, packa	ged,
	L	Exporter, I certify that the I certify that the waste mit	nimization statement i						d drawing de	enerator) is true.				
1	Gen	Seery O. 1	PODDER	marine a constitue	AT LINES		The state of	mus di	X	Thorse		Mont		10
INTL		International Shipments	Import to	U.S.		Export from 10		Portofes	tyfexit:					
		nsporter signature (for exporter) Transporter Actorowindgmin		eks	•		1	V Date leavi	ng U.S.:					_
TRANSPORTER	Tran	Printed Typed N	1 13 N.	00		Sign	Will A	2/4	Sal			Mont	h Day	You
ANSI	Tran	sporter 2 Printed Typed Na	me	3	<del></del> .	Sign	Sina	VO X- 11	) 00	· · ·		Mont	h Day	Year
1	18.0	Discrepancy		· ·							-			<u>L</u> ,
	_	Discrepancy Indication Sp	Oce Quali	Bly .	Турь			Residue		Partial Reje	ction	Ē	Full Rejo	otion
1							Ma	nitest Reference	Number:					
Ë	18b.	Alternate Facility (or Gene	rator)			١				U.S. EPAID N	umber			•
D.FA		ifty's Phone: Signature of Alternate Fac	ity for Canarated				,					Mon	the Day	Vest
DESIGNATED FACILITY								<u>.</u>		*			Day	Year
E81G	19.1	Hazardous Waste Report N	lanagement Method (	Codes (i.e., codes for h	azərdiyye wasle treab	ment, disposal,	and recy	oling systems)		14 .	_			
1	1/	1/32						· · · · ·						
		Designated Facility Owner of ted/Typed Name /	or Operator: Certificat	ion of receipt of hazard	lous materials covere		est except	as noted in her	183	2 7	1	/ Mon	th/ Day	Year
¥.	F.	14/14	100	nKhec	id	خل	-/1	idy	/ / ·	1011/	Klaa	(109	124	1/0
TA	LOL	m 8700-22 (Rev. 3-05)	Lecanne Bolilous 6	m⊕ OD3OHB(8. 	*		1	1	D	ESIGNATE	D FACI	LITY TO	GENE	RATOR

a ·		5)
	***** Receipt # 471861 *****	Page - 1
Date/Time In 4/16/10 11:18 Load Type Rolloff Federal Transporter ROBBIE D WOOD INC CWM Continuous AL	EPA ID ALD067130891 rolled	** WEIGHT SUHNARY ** Gross 74440.00 Tare .00 Net .00 Adj00
Truck Number 253 Trailer/Contar 81 A-38	§2	Adj. Ret .00
Rcpt Dac Document Profile Profile Generator Con Ln# Ln# Humber Sales Invoicing Customer		ADEH #
1 1 004176656JJK BK3714 SOLUTIA INC ANHISTON AL Doc Seq # 1 NOU SOLUTIA INC Scheduled Date 04/16/10 Time 15:3	CM 18900.00 K Kilogram Y PLFB GC Undeterminable SUBCC Value - SUBCC Not Found P.O. Num	113911-8003 COD Req'd
>51% OR <51% DEBRIS (CIRCLE) PREFILLED VAULT Y OR N (CIRCLE) >51% OR <51% NAC 10% INSPECTION (CIRCLE) BULK NATERIAL ONLY; SAMPLED/INSPECTED SELECT MATERIAL/NON-SELECT MATERIAL	13:36 4/16/2010 PREE LIQUIDS DETECTED? YES 7/10	42840 1b 6 31600 (14333,466) 42840 1b 6
47/2044/2010/2010/2010/2010/2010/2010/2010		NY AL
PHYSICAL DESCRIPTION OF WASTE:	SHIPLER/ HTT RU	YAL
RAD. SCREEN POS NEG	IPTION	
ph (PAPER)   I CN_SCREEN + - SULFIDE SCREEN + - I		<del></del>
ADDITIONAL AWALYTICAL REG'D? Y N  DESCRIBE: PCB CONC. (PPN) SULFIDE (9030)  XH20 BY KF CYANIDE (9010)		
COMMENTS: (SAFETY/OPERATIONAL)	DIG VIIV.	
COMPAT. TEST W/ OK RXN		
ADD'L SPOT SAHPLE ATTACHED? Y N		Tris delay village in the contract of the contract
P-ST-5/PT ST-8 ST-8/PT HIC HAC (HAC INSPECT) F INC P-ST-8 P-ST-8/PT VS-3 VS-5 VS-8	T-5 ST-5/PT P-ST-5 SD1-PTA B-PIH OTHER SP-VS PCB-HAC P-NAC	
INDICATOR PARAMETER WILL BE CIRCLED  B-HAC LOADS REQUIRING INSPECTION THAT ARE FOUND TO BE BE RETURNED TO LAB AND PLACED ON HOLD.	LESS THAN 51% MUST	
BE NETURNED TO LAN AND PLACED DM WOLD		

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en,		
C INC EHELLE	* Receipt #471820 *****	Page - 1
Date/Time In 4/14/10 8:41 Load Type Rolloff Federal EPA ID Transporter ACTION RESOURCES INC CWM Controlled HANCEVILLE AL		** WEIGHT SUMMARY ** Gross 74700.00 Tare .00 Net .00 Adj00
Truck Number 133 Trailer/Contnr #1 A-9 ENV #2	#3	Adj. Het .00
Rcpt Doc Document Profile Profile Generator Cnt Cnt Ln@ Ln@ Humber Sales Invoicing Customer # Code	Quan. V Units PCB Cat Waste Status	ADEM #
	18000.00 K Kilogram Y PLFB GC Undeterminable	
ANNISTON AL.  Doc Seq # 1 NOU SOLUTIA IRC  Scheduled Date 04/14/10 Time 15:30 9287  >51% OR <51% DEBRIS (CIRCLE)	SUBCC Value - SUBCC Not Found P.O. Num	COD Reg'd
PREFILLED VAULT Y OR N (CIRCLE) >51% OR <51% NAC 10% INSPECTION (CIRCLE) BULK MATERIAL ONLY:	4/14/2010 9:56	43460 lb 6
SAMPLED/INSPECTED FRE	ELIONIDS DETECTED? XES 4/86.40	43460 lb 6
SELECT HATERIAL/HON-SELECT NATERIAL NIH	D DISPERSAL MATERIAL? YES NO	42460 10 6 W
PHYSICAL DESCRIPTION OF WASTE:	SAMPLER/APPRI	DVAL
ph (PAPER)  CH SCREEN + - SULFIDE SCREEN + - )  ADDITIONAL ANALYTICAL REG'D? Y H  DESCRIBE:  PCB CONC. (PPH) SULFIDE (9030)  RHZ0 BY RF CYANIDE (9010) TA		
COMPAT. TEST W/OKRXN		
ADD'L SPOT SAMPLE ATTACHED? Y R	CIME A COLUMN TO STATE TO STAT	
DISPOSAL METHOD: S SP ST-3 ST-3/PT P-ST-3 P-ST-3/PT ST-5 ST		-
P-ST-5/PT ST-8 ST-8/PT MIC MAC (MAC INSPECT) F INC SP- P-ST-8 P-ST-8/PT VS-3 VS-5 VS-8	VS PUB-NAC P-NAC	
INDICATOR PARAMETER WILL BE CIRCLED		
B-HAC LOADS REQUIRING INSPECTION THAT ARE FOUND TO BE LESS!	THAN 51% RUST	
BE RETURNED TO LAB AND PLACED ON HOLD.  PT ASED FOR DISPOSAL BY:  DATE	İ.	Anta francisco de la productione

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K56	
( ) HC EMELLE **** Receipt # 471863 ****	Page - 1
Date/Time In 4/16/10 11:22 Load Type Rolloff Federal EPA ID ALDS57138891 Transporter ROBBIE D WOOD INC CHM Controlled DOLOMITE AL	** WEIGHT SUMMARY ** Gross 75600.00 Tare .00 Het .00 Adj00
Truck Humber 5971 Trailer/Contor #1 A-69 #2 #3	Adj. Ret .60
Rcpt Doc Document Profile Profile Generator Cnt Cnt Total W DCS Sched Federal EPA Ln# Ln# Humber Sales Invoicing Customer # Code Quan. V Units PCB Cat Waste Status	ADEN #
1 1 604176659JJK BK3714 SOLUTIA INC 1 CN 18080.60 K Kilogram Y PLF8 GC Undeterminable ANNISTON AL SUBCC Value - SUBCC Not Found P.O. Num	
Scheduled Date 04/16/10 Time 15:30 928990-3 >51% OR <51% DEBRIS (CIRCLE) PREFILLED VAULT Y OR N (CIRCLE)	
177.10	43380 lb 6
SAMPLED/INSPECTED FREE LIQUIDS DETECTED? YES **ONO SELECT MATERIAL WIND DISPERSAL MATERIAL? YES /*NO Y	3220 (1461)
PHYSICAL DESCRIPTION OF WASTE:	YAL
S. SAMPLE: B10- I PHYS. DESCRIPTION	
RAD. SCREEN POS NEG	
IGN, SCREEN POS NEG	
H29 SQL. S F PT/SQL I	
H20 RXH/TEMP. NO RXH REACTS I	
ph (PAPER)	
CH SCREEN + - SULFIDE SCREEN + - 1	**************************************
ADDITIONAL ANALYTICAL REO'D? Y H	
DESCRIBE:	
PCB CONC. (PPN) SULFIDE (9930)	And the state of the same and t
RH20 BY RF CYANIDE (9010) TAB WASTE Y N	
PAINT FILTER TEST/ P F SPEC. BRAVITY BNZ CONC. PPM	-
CONNEUTS: (SAFETY/OPERATIONAL)	
COMPAT. TEST W/ OR RUM	
ADD'L SPOT SAMPLE ATTACHED? Y N	
DISPOSAL METHOD: S SP ST-3 ST-3/PT P-ST-3 P-ST-3/PT ST-5 ST-5/PT P-ST-5 S01-PTA B-PIN OTHER	
P-ST-5/PT ST-8 ST-8/PT MIC HAC (NAC INSPECT) F INC SP-VS PCB-NAC P-HAC	
P-ST-8 P-ST-8/PT VS-3 VS-5 VS-8	
INDICATOR PARAMETER WILL BE CIRCLED	
B-HAC LOADS REQUIRING INSPECTION THAT ARE FOUND TO BE LESS THAN 51% MUST	
BE RETURNED TO LAB AND PLACED ON HOLD.	
BE RETURNED TO LAB AND PLACED ON HOLD.  P SED FOR DISPOSAL BY:  DATE:	

	(2)
: NC EMELLE **** Receipt # 471860	Page - 1
Date/Time In 4/16/10 11:12 Load Type Rolloff Federal EPA ID ALD667138891 Transporter ROBBIE D WOOD INC CWN Controlled DOLONITE AL	** WEIGHT SUNMARY ** Gross 71540.00 Tare .00 Net .00 Adj00
Pruck Number 273 Trailer/Contor #1 A-2EMV #2 #3	Adj. Net .00
Rcpt Doc Document Profile Profile Generator Cnt Cnt Total W DCS Ln# Ln# Number Sales Invoicing Customer # Code Quan. V Units PC	Sched Federal EPA B Cat Waste Status ADEN #
1 1 004176660JJK BK3714 SOLUTIA INC 1 CM 18600.60 K Kilogram Y ANNISTON AL SUBCC Value - SUBCC No Doc Seq # 1 HOU SOLUTIA INC P.O. Num Scheduled Date 04/16/10 Time 15:30 928900-1 >51% OR <51% DEBRIS (CIRCLE)	
PREFILLED VAULT Y OR N (CIRCLE)  >51% OR <51% MAC 10% INSPECTION (CIRCLE)  BULK NATERIAL ONLY:  SAMPLED/INSPECTED FREE LIQUIDS DETECTED?  SELECT NATERIAL/HON-SELECT MATERIAL WIND DISPERSAL MATERIAL?	4/16/2010 40 <b>50</b> 0 15 3 13:48 YES / NO 3/040 (14079.65 YES / NO
PHYSICAL DESCRIPTION OF WASTE:	SAHPLER/APPROVAL
SPOY SAMPLE:   B10-	
CN_SCREEN + - SULFIDE SCREEN + - I ADDITIONAL ANALYTICAL REO'D? Y N DESCRIBE:	
PCB CONC. (PPN) SULFIDE (9030)  XH20 BY KF CYANIDE (9010) TAB WASTE Y N  PAINT FILTER TEST/ P F SPEC. GRAVITY BHZ CONC. PPN  CONMENTS: (SAFETY/OPERATIONAL)	
COMPAT. TEST W/OKRXN	
ADD'L SPOT SAMPLE ATTACHED? Y H DISPOSAL METHOD: S SP ST-3 ST-3/PT P-ST-3 P-ST-3/PT ST-5 ST-5/PT P-ST-5 S01-PTA B-1 P-ST-5/PT ST-8 ST-8/PT HIC MAC (MAC IMSPECT) F INC SP-VS PCB-MAC P-MAC P-ST-8 P-ST-8/PT VS-3 VS-5 VS-8 INDICATOR PARAMETER WILL BE CIRCLED B-MAC LOADS REQUIRING IMSPECTION THAT ARE FOUND TO BE LESS THAN 51% MUST	PIN OTHER
BE RETURNED TO LAB AND PLACED ON HOLD.  P 7. SED FOR DISPOSAL BY:  DATE:	
P , SED FOR DISPOSAL BY:DATE:	



CWM, INC EMELLE	Page - 1
Date/Time In 4/29/10 12:33  Load Type Rolloff Federal EPA ID ALDO67138891  Transporter ROBBIE D WOOD INC CWH Controlled DOLONITE AL  Truck Number 107 Trailer/Contar \$1 A80 ENV \$2 \$3	** WEIGHT SUMMARY ** Gross 76960.00 Tare .00 Net .60 Adj60 Adj. Net .00
11 dek Bagner fo. Herrertonent at Noa Eus. az. az.	uni. mar
Ropt Doc Document Profile Profile Generator Cat Cat Total & DCS Sched Federal EPA Ln# Ln# Kumber Sales Invoicing Customer # Code Quan. V Units PCB Cat Waste Status	ADEN 6
1 1 004176661JJK BK3714 SOLUTIA INC 1 CM 15000.00 K Kilogram Y PLFB GC Undeterminable AMBISTOR AL SUBCC Value - SUBCC Not Found P.O. Num	113011-R003
Doc Seq # 1 HOU SOLUTIA INC P.O. Num	COD Req'd
Scheduled Date 04/29/10 Time 15:30 929594-1	,
>51% OR <51% HAC 10% INSPECTION (CIRCLE)	41526 lb 6
BULK MATERIAL ONLY:  CAMBLED/INCOCTED  FREE LIGHTSC DETECTED?  USC / BO	2011-
SAMPLED/INSPECTEDFREE LIQUIDS DETECTED? YES / HO SELECT HATERIAL/HON-SELECT HATERIAL WIND DISPERSAL MATERIAL? YES / HO	
F **CAL DESCRIPTION OF WASTE:	
SPOT SAMPLE: B10-   PHYS. DESCRIPTION	
RAD. SCREEN POS NEG I IGN. SCREEN POS NEG	
IGR. SCREEN PUS RES	
H20 SOL. S F PT/SOL 1	
H20 RXH/TEHP. NO RXN REACTS 1	
CN_SCREEN + - SULFIDE SCREEN + - I	
ADDITIONAL ANALYTICAL REG'D? Y N	
DESCRIBE:  PCB CONC. (PPN) SULFIDE (9030)  XH20 BY KF CYANIDE (9010) TAB WASTE Y N	
XH20 BY KF CYANIDE (9910) TAB WASTE Y N	
PAIRT FILTER TEST/ P F SPEC. GRAVITY BAZ CORC. PPH	
COMMENTS: (SAFETY/OPERATIONAL)	
COMPAT. TEST W/ OK RXN	
ADD'L SPOT SAMPLE ATTACHED? Y H	
DISPOSAL METHOD: S SP ST-3 ST-3/PT P-ST-3 P-ST-3/PT ST-5 ST-5/PT P-ST-5 SØ1-PTA B-PIN OTHER	
P-ST-5/PT ST-8 ST-8/PT HIC NAC (MAC INSPECT) F INC SP-VS PCB-NAC P-NAC	THE THE TOTAL OF THE
P-ST-8 P-ST-8/PT VS-3 VS-5 VS-8	
INDICATOR PARAMETER WILL BE CIRCLED	
B-" LOADS REQUIRING INSPECTION THAT ARE FOUND TO BE LESS THAN 51% MUST	
BL .URNED TO LAB AND PLACED ON HOLD.	
RELEASED FOR DISPOSAL BY:DATE:	

ų.

4

WM Waste Management, Inc. Emelle Facility P.O. Box 55 Emelle, Alabama 35459-0055 (205)652-9721

Manifest Document Number;

Site Information

SOLUTIA INC 702 CLYDESDALE AVE

SOLUTIA INC 702 CLYDESDALE AVE

ANNISTON, AL 36201-5328

ANNISTON, AL 36201-5328

#### CERTIFICATE OF DISPOSAL

Chemical Waste Management, Inc. (ALD000622464) has received PCB material from SOLUTIA INC

as described on Hazardous Waste Manifest Number 004176656JJK-1
Waste Management, Inc. hereby certifies that the above described material (exluding PCB liquids, if applicable) was landfilled on the dates shown below, in compliance with State and Federal Regulations.

Under civil and criminal penalties of law for the making or submission of falseor fraudulent statements or representation (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the pesons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.

Dorothy Oliver, Recordkeeping and Reporting Supervisor

May 03, 2010

 OSD
 Unique ID
 Cont # Profile
 Disposed
 Description

 4/13/10
 004176656JJK-01
 I BK3714
 4/16/10
 PCB CONTAMINATED SOIL, DEBRIS /

WM

Waste Management, Inc. Emelle Facility P.O. Box 55 Emelle, Alabama 35459-0055 (205)652-9721

Manifest Document Number:

Site Information

SOLUTIA INC 702 CLYDESDALE AVE SOLUTIA INC 702 CLYDESDALE AVE

ANNISTON, AL 36201-5328

ANNISTON, AL 36201-5328

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Dorothy Oliver, Recordkeeping and Reporting Supervisor

April 15, 2010

OSD Unique ID Cont # Profile Disposed Description
4/13/10 004176658JJK-01 1 BK3714 4/14/10 PCB CONTAMINATED SOIL, DEBRIS /

WIVI Waste Management, Inc.

Emelle Facility
P.O. Box 55
Emelle, Alabama 35459-0055
(205)652-9721

Manifest Document Number:

Site Information

SOLUTIA INC 702 CLYDESDALR AVE SOLUTIA INC 702 CLYDESDALE AVE

ANNISTON, AL 36201-5328

ANNISTON, AL 36201-5328

## CERTIFICATE OF DISPOSAL

Chemical Waste Management, Inc. (ALD000622464) has received PCB material from SOLUTIA INC

as described on Hazardous Waste Manifest Number 004176659JJK-1

Waste Management, Inc. hereby certifies that the above described material (exluding PCB liquids, if applicable) was landfilled on the dates shown below, in compliance with State and Federal Regulations

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Dorothy Oliver, Recordkeeping and Reporting Supervisor

May 03, 2010

 OSD
 Unique ID
 Cont #
 Profile
 Disposed
 Description

 4/13/10
 004176659JJK-01
 1
 BK3714
 4/16/10
 PCB CONTAMINATED SOIL, DEBRIS /

Page 1 of 1

Manifest: 004176659JJK-1

WM Waste Management, Inc. Emelle Facility P.O. Box 55 Bmelle, Alabama 35459-0055 (205)652-9721

Manifest Document Number:

Site Information

SOLUTIA INC 702 CLYDESDALE AVE

SOLUTIA INC 702 CLYDESDALB AVE

ANNISTON, AL 36201-5328

ANNISTON, AL 36201-5328

#### CERTIFICATE OF DISPOSAL

Chemical Waste Management, Inc. (ALD000622464) has received PCB material from SOLUTIA INC

as described on Hazardous Waste Manifest Number 004176660JJK-1
Waste Management, Inc. hereby certifies that the above described material (exluding PCB liquids, if applicable) was landfilled on the dates shown below, in compliance with State and Federal Regulations.

Under civil and criminal penalties of law for the making or submission of falseor fraudulent statements or representation (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the pesons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.

Dorothy Oliver, Recordkeeping and Reporting Supervisor

May 03, 2010

 OSD
 Unique ID
 Cont #
 Profile
 Disposed
 Description

 4/13/10
 004176660JJK-01
 1
 BK3714
 4/16/10
 PCB CONTAMINATED SOIL, DEBRIS /

WM

Waste Management, Inc. Emelle Facility P.O. Box 55 Emelle, Alabama 35459-0055 (205)652-9721

Manifest Document Number:

Site Information

SOLUTIA INC 702 CLYDESDALB AVE SOLUTIA INC 702 CLYDESDALE AVB

ANNISTON, AL 36201-5328

ANNISTON, AL 36201-5328

#### CERTIFICATE OF DISPOSAL

Chemical Waste Management, Inc. (ALD000622464) has received PCB material from SOLUTIA INC

as described on Hazardous Waste Manifest Number 004176661JJK-1
Waste Management, Inc. hereby certifies that the above described material (exluding PCB liquids, if applicable) was landfilled on the dates shown below, in compliance with State and Federal Regulations.

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Dorothy Oliver, Recordkeeping and Reporting Supervisor

May 03, 2010

 OSD
 Unique ID
 Cont # Profile
 Disposed
 Description

 4/27/10
 004176661JJK-01
 1 BK3714
 4/29/10
 PCB CONTAMINATED SOIL, DEBRIS /

# APPENDIX D

Source Removal Photographs



Photograph 1: Initial Excavation (Looking Southeast)



Photograph 2: Excavation in Progress (Looking West)



Photograph 3: Extent of Excavation (Looking Northeast)



Photograph 4: Initial Backfilling (Looking Southwest)



Photograph 5: Collection of Additional Southern Sample (SSRI-11-S-15) with Initial Excavation Complete (Looking Northwest)



Photograph 6: Additional Excavation



Photograph 7: Additional Excavation Backfilling