

SEVERN TRENT LABORATORIES  
ANALYTICAL REPORT

JOB NUMBER: 220522

Prepared For:

SCS Engineers, Inc.  
10401 Holmes Road  
Suite 400  
Kansas City, MO 64131

Project: Hardesty Federal Center Project

Attention: David Brewer

Date: 12/12/2003

\_\_\_\_\_  
Signature

Name: Eric A. Lang

Title: Project Manager

E-Mail: elang@stl-inc.com

\_\_\_\_\_  
Date

STL Chicago  
2417 Bond Street  
University Park, IL 60466

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This Report Contains (\_\_\_\_\_) Pages

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S A M P L E I N F O R M A T I O N  
Date: 12/12/2003

Job Number.: 220522 Project Number.....: 20002955  
Customer...: SCS Engineers, Inc. Customer Project ID...: HARDESTY FEDERAL CENTER  
Attn.....: David Brewer Project Description....: Hardesty Federal Center Project

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
220522-1	B11 BASEMENT FLOOR TRANS. SPILL	Wipe	09/12/2003	14:45	09/13/2003	11:40
220522-2	B11 2ND FLOOR BALLAST SPILL	Wipe	09/12/2003	15:05	09/13/2003	11:40
220522-3	B3 BASEMENT FLOOR ELECT. SWITCH	Wipe	09/12/2003	15:30	09/13/2003	11:40

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LABORATORY TEST RESULTS												
Job Number: 220522								Date:12/12/2003				
CUSTOMER: SCS Engineers, Inc.				PROJECT: HARDESTY FEDERAL CEN				ATTN: David Brewer				
Customer Sample ID: B11 BASEMENT FLOOR TRANS. SPILL						Laboratory Sample ID: 220522-1						
Date Sampled.....: 09/12/2003						Date Received.....: 09/13/2003						
Time Sampled.....: 14:45						Time Received.....: 11:40						
Sample Matrix.....: Wipe												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1221, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1232, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1242, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1248, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1254, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk
	Aroclor 1260, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1213	mgjk

\* In Description = Dry Wgt.

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LABORATORY TEST RESULTS												
Job Number: 220522								Date:12/12/2003				
CUSTOMER: SCS Engineers, Inc.				PROJECT: HARDESTY FEDERAL CEN				ATTN: David Brewer				
Customer Sample ID: B11 2ND FLOOR BALLAST SPILL						Laboratory Sample ID: 220522-2						
Date Sampled.....: 09/12/2003						Date Received.....: 09/13/2003						
Time Sampled.....: 15:05						Time Received.....: 11:40						
Sample Matrix.....: Wipe												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016, Wipe	2.5	U		2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1221, Wipe	2.5	U		2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1232, Wipe	2.5	U		2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1242, Wipe	2.5	U		2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1248, Wipe	21			2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1254, Wipe	2.5	U		2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk
	Aroclor 1260, Wipe	14			2.5	2.5	5.00000	ug/Wipe	95949		09/16/03 1246	mgjk

\* In Description = Dry Wgt.

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LABORATORY TEST RESULTS												
Job Number: 220522								Date:12/12/2003				
CUSTOMER: SCS Engineers, Inc.				PROJECT: HARDESTY FEDERAL CEN				ATTN: David Brewer				
Customer Sample ID: B3 BASEMENT FLOOR ELECT. SWITCH						Laboratory Sample ID: 220522-3						
Date Sampled.....: 09/12/2003						Date Received.....: 09/13/2003						
Time Sampled.....: 15:30						Time Received.....: 11:40						
Sample Matrix.....: Wipe												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1221, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1232, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1242, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1248, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1254, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk
	Aroclor 1260, Wipe	0.50	U		0.50	0.50	1.00000	ug/Wipe	95949		09/16/03 1319	mgjk

\* In Description = Dry Wgt.

L A B O R A T O R Y C H R O N I C L E

Job Number: 220522

Date: 12/12/2003

CUSTOMER: SCS Engineers, Inc.

PROJECT: HARDESTY FEDERAL CEN

ATTN: David Brewer

Lab ID:	Client ID:	Date Recvd:	Sample Date:				
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
220522-1	B11 BASEMENT FLOOR TRANS. SPIL	09/13/2003	09/12/2003				
3550B	Extraction Ultrasonic (PCBs)	1	95790			09/15/2003 1100	
8082	PCB Analysis	1	95949	95790		09/16/2003 1213	1.00000
220522-2	B11 2ND FLOOR BALLAST SPILL	09/13/2003	09/12/2003				
3550B	Extraction Ultrasonic (PCBs)	1	95790			09/15/2003 1100	
8082	PCB Analysis	1	95949	95790		09/16/2003 1246	5.00000
220522-3	B3 BASEMENT FLOOR ELECT. SWITC	09/13/2003	09/12/2003				
3550B	Extraction Ultrasonic (PCBs)	1	95790			09/15/2003 1100	
8082	PCB Analysis	1	95949	95790		09/16/2003 1319	1.00000

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S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 220522

Report Date.: 12/12/2003

CUSTOMER: SCS Engineers, Inc.

PROJECT: HARDESTY FEDERAL CENTER

ATTN: David Brewer

Method.....: PCB Analysis  
Method Code...: 8082

Test Matrix...: Wipe  
Batch(s).....: 95949

Prep Batch..: 95790

Lab ID	DT	Sample ID	Date	DCB	TCX
LCD			09/16/2003	93	91
LCS			09/16/2003	88	86
MB			09/16/2003	88	89
220522- 1		B11 BASEMENT FLOOR TRANS. SPILL	09/16/2003	55	93
220522- 2		B11 2ND FLOOR BALLAST SPILL	09/16/2003	102	94
220522- 3		B3 BASEMENT FLOOR ELECT. SWITCH	09/16/2003	55	95

Test	Test Description	Limits
DCB	Decachlorobiphenyl (surr)	41 - 125
TCX	Tetrachloro-m-xylene (surr)	56 - 115

Q U A L I T Y   C O N T R O L   R E S U L T S

Job Number.: 220522

Report Date.: 12/12/2003

CUSTOMER: SCS Engineers, Inc.

PROJECT: HARDESTY FEDERAL CENTER

ATTN: David Brewer

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
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Test Method.....: 8082

Equipment Code....: INST0708

Analyst...: mgk

Method Description.: PCB Analysis

Batch.....: 95949

LCD	Laboratory Control Sample Duplicate	O03HWLPCBA	95790 -003		09/16/2003	1140
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Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	* Limits
Aroclor 1016, Wipe	ug/Wipe	4.602300	4.398800	5.001000	0.500000	U 92 5	% 67-103 R 30
Aroclor 1260, Wipe	ug/Wipe	4.674700	4.431500	5.010000	0.500000	U 93 5	% 65-109 R 30



Q U A L I T Y   C O N T R O L   R E S U L T S

Job Number.: 220522

Report Date.: 12/12/2003

CUSTOMER: SCS Engineers, Inc.

PROJECT: HARDESTY FEDERAL CENTER

ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
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Test Method.....: 8082

Equipment Code....: INST0708

Analyst...: mgk

Method Description.: PCB Analysis

Batch.....: 95949

LCS	Laboratory Control Sample	O03HWLPCBA	95790 -002		09/16/2003	1108
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Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits
Aroclor 1016, Wipe	ug/Wipe	4.398800		5.001000	0.500000	U 88	%	67-103
Aroclor 1260, Wipe	ug/Wipe	4.431500		5.010000	0.500000	U 88	%	65-109

Q U A L I T Y   C O N T R O L   R E S U L T S

Job Number.: 220522

Report Date.: 12/12/2003

CUSTOMER: SCS Engineers, Inc.

PROJECT: HARDESTY FEDERAL CENTER

ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
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Test Method.....: 8082

Equipment Code....: INST0708

Analyst...: mgk

Method Description.: PCB Analysis

Batch.....: 95949

MB	Method Blank		95790 -001		09/16/2003	1035
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Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	* Limits	F
Aroclor 1016, Wipe	ug/Wipe	0.500000	U					
Aroclor 1221, Wipe	ug/Wipe	0.500000	U					
Aroclor 1232, Wipe	ug/Wipe	0.500000	U					
Aroclor 1242, Wipe	ug/Wipe	0.500000	U					
Aroclor 1248, Wipe	ug/Wipe	0.500000	U					
Aroclor 1254, Wipe	ug/Wipe	0.500000	U					
Aroclor 1260, Wipe	ug/Wipe	0.500000	U					

Q U A L I T Y   A S S U R A N C E   M E T H O D S

R E F E R E N C E S   A N D   N O T E S

Report Date: 12/12/2003

REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
- 3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
- 5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

- U Analyte was not detected at or above the stated limit.
- < Not detected at or above the reporting limit.
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
- S Result was determined by the Method of Standard Additions.
- F AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

- ^ ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
- \* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
- + MSA correlation coefficient is less than 0.995.
- 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 SD: Serial dilution exceeds the control limits.
- H MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- W AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

- U Analyte was not detected at or above the stated limit.
- ND Compound not detected.
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- Q Result was qualitatively confirmed, but not quantified.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.
- E Result exceeded calibration range, secondary dilution required.
- F AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

- B MB: Batch QC is greater than reporting limit.
- \* LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
- ^ EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
- A Concentration exceeds the instrument calibration range
- a Concentration is below the method Reporting Limit (RL)
- B Compound was found in the blank and sample.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- H Alternate peak selection upon analytical review
- I Indicates the presence of an interference, recovery is not calculated.
- M Manually integrated compound.
- P The lower of the two values is reported when the % difference between the results of two GC columns is

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 12/12/2003

greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calibration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

Q U A L I T Y   A S S U R A N C E   M E T H O D S

R E F E R E N C E S   A N D   N O T E S

Report Date: 12/12/2003

RTW      Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number  
SCB      Seeded Control Blank  
SD        Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)  
UCB      Unseeded Control Blank  
SSV      Second Source Verification Standard  
SLCS     Solid Laboratory Control Standard(LCS)  
PHC      pH Calibration Check LCSP pH Laboratory Control Sample  
LCDP     pH Laboratory Control Sample Duplicate  
MDPH     pH Sample Duplicate  
MDFP     Flashpoint Sample Duplicate  
LCFP     Flashpoint LCS  
G1        Gelex Check Standard Range 0-1  
G2        Gelex Check Standard Range 1-10  
G3        Gelex Check Standard Range 10-100  
G4        Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)

Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.