RECD MAR 0 5 2004

SEVERN TRENT STL

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Tel: 916 373 5600 Fax: 916 372 1059
www.stl-inc.com

February 24, 2004

STL SACRAMENTO PROJECT NUMBER: G4B030164
PO/CONTRACT:

Loretta Tomlin
North Coast Labs
5680 West End Road
Arcata, CA 95521

Dear Ms. Tomlin,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on February 3, 2004. These samples are associated with your 0402012 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4442.

Sincerely,

Pravani Pillay
Project Manager

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G4B030164

General Comments

Sample 1 was logged in using the Chain of Custody since the label indicated a different sample ID of 0402011-01A.

SOLID, 8270C, TCLP Phenols
Samples: 1, 2
De-ionized water was used as the leachate as indicated on the Chain of Custody. Also the analyte list used was the same as used for the analysis of water samples by this method. The use of de-ionized water and the analyte list were confirmed with Loretta Tomlin on February 4, 2004.

The laboratory control sample (LCS) had a recovery below the default control limit for pentachlorophenol. The default limits are set at 50-150% for this test since there are insufficient data points to generate laboratory specific control limits. Historical water extraction control limits for this analyte are 30-129% and therefore pentachlorophenol would be within control. Thus the data is reported with no further action.

There were no other anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California*	01119CA	Utah*	QUAN1
Connecticut	PH-0691	Virginia	00178
Florida*	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Nevada	CA-044	USACE	NA
New Jersey*	CA005	USDA Foreign Plant	37-82605
New York*	11666	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request.

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

SAMPLE SUMMARY

G4B030164

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
F80F3	001	0402012-1A DT-3@6'(TCLP)	01/21/04	10:30
F80F7	002	0402012-2A SLR-3@7.5'(TCLP)	01/21/04	16:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

NORTH COAST LABORATORIES LTD.

Sub-Contract Chain of Custody Record

Date Shipped: 2/2/04 **Carrier:** UPS

Air Bill #: _____ **Cooler #:** _____

Subcontractor: STLSAC
5755 8th St. East
Seattle, WA 98424

Phone: 253 922-2310
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
[signature]	2/2/04 1500	[signature]	2-3-04 0940

Analysis Request

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
* 0402012-1A	DT-3 @ 6' (TCLP)	1/21/04 10:30:00 AM	TCLP PHENOLS BY 8270
0402012-2A	SLR-3 @ 7.5' (TCLP)	1/21/04 4:00:00 PM	TCLP PHENOLS BY 8270

RECEIVED IN GOOD CONDITION UNDER COC
FEB 0 2 2004
INI GC

* BOTTLE LABEL SAYS "0402011-01A"
GC 2-3-04

Special Instructions: Please include QC Data...PLEASE USE DI WATER FOR TCLP EXTRATION FLUID... DO NOT CENTRIFUGE SAMPLES=-=OK TO DISCUSS RESULTS WITH SHN-EUREKA

Date Due: 2/13/04 Rush Charges Authorized: NO Preservative: NONE

Return Chain of Custody to NCL

NORTH COAST LABS

Client Sample ID: 0402012-1A DT-3@6'(TCLP)

TCLP GC/MS Semivolatiles

Lot-Sample #...: G4B030164-001 Work Order #...: F80F31AA Matrix.....: SOLID
Date Sampled...: 01/21/04 Date Received..: 02/03/04
Leach Date.....: 02/04/04 Prep Date.....: 02/11/04 Analysis Date..: 02/17/04
Leach Batch #..: P403514 Prep Batch #...: 4042274
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	50	ug/L
2-Chlorophenol	ND	50	ug/L
2,4-Dichlorophenol	ND	50	ug/L
2,4-Dimethylphenol	ND	50	ug/L
4,6-Dinitro-2-methylphenol	ND	250	ug/L
2,4-Dinitrophenol	ND	250	ug/L
2-Methylphenol	ND	50	ug/L
3-Methylphenol & 4-Methylphenol	ND	50	ug/L
2-Nitrophenol	ND	50	ug/L
4-Nitrophenol	ND	250	ug/L
Pentachlorophenol	ND	250	ug/L
Phenol	ND	50	ug/L
2,4,5-Trichlorophenol	ND	50	ug/L
2,4,6-Trichlorophenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	42	(10 - 74)
Phenol-d5	27	(10 - 54)
2,4,6-Tribromophenol	42	(18 - 140)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

NORTH COAST LABS

Client Sample ID: 0402012-2A SLR-3@7.5'(TCLP)

TCLP GC/MS Semivolatiles

Lot-Sample #...: G4B030164-002
Date Sampled...: 01/21/04
Leach Date.....: 02/04/04
Leach Batch #..: P403514
Dilution Factor: 1

Work Order #...: F80F71AA
Date Received..: 02/03/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042274

Matrix.....: SOLID
Analysis Date..: 02/18/04

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	50	ug/L
2-Chlorophenol	ND	50	ug/L
2,4-Dichlorophenol	ND	50	ug/L
2,4-Dimethylphenol	ND	50	ug/L
4,6-Dinitro-2-methylphenol	ND	250	ug/L
2,4-Dinitrophenol	ND	250	ug/L
2-Methylphenol	ND	50	ug/L
3-Methylphenol & 4-Methylphenol	ND	50	ug/L
2-Nitrophenol	ND	50	ug/L
4-Nitrophenol	ND	250	ug/L
Pentachlorophenol	ND	250	ug/L
Phenol	ND	50	ug/L
2,4,5-Trichlorophenol	ND	50	ug/L
2,4,6-Trichlorophenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	43	(10 - 74)
Phenol-d5	26	(10 - 54)
2,4,6-Tribromophenol	37	(18 - 140)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

QC DATA ASSOCIATION SUMMARY

G4B030164

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8270C	P403514	4042274	
002	SOLID	SW846 8270C	P403514	4042274	

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 **Work Order #...:** F9EJ31AA **Matrix.....:** SOLID
MB Lot-Sample #: G4B110000-274

Prep Date.....: 02/11/04
Analysis Date..: 02/17/04 **Prep Batch #...:** 4042274
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Chloro-3-methylphenol	ND	50	ug/L	SW846 8270C
2-Chlorophenol	ND	50	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	50	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	50	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	250	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	250	ug/L	SW846 8270C
2-Methylphenol	ND	50	ug/L	SW846 8270C
2-Nitrophenol	ND	50	ug/L	SW846 8270C
4-Nitrophenol	ND	250	ug/L	SW846 8270C
Pentachlorophenol	ND	250	ug/L	SW846 8270C
Phenol	ND	50	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	50	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	50	ug/L	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	50	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	41	(10 - 74)
Phenol-d5	27	(10 - 54)
2,4,6-Tribromophenol	39	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 Work Order #...: F9EJ31AE Matrix.....: SOLID
MB Lot-Sample #: G4B110000-274

Prep Date.....: 02/11/04
Analysis Date..: 02/17/04 Prep Batch #...: 4042274
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Chloro-3-methylphenol	ND	50	ug/L	SW846 8270C
2-Chlorophenol	ND	50	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	50	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	50	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	250	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	250	ug/L	SW846 8270C
2-Methylphenol	ND	50	ug/L	SW846 8270C
2-Nitrophenol	ND	50	ug/L	SW846 8270C
4-Nitrophenol	ND	250	ug/L	SW846 8270C
Pentachlorophenol	ND	250	ug/L	SW846 8270C
Phenol	ND	50	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	50	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	50	ug/L	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	50	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	40	(10 - 74)
Phenol-d5	26	(10 - 54)
2,4,6-Tribromophenol	37	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 Work Order #...: F9EJ31AC-LCS Matrix.....: SOLID
LCS Lot-Sample#: G4B110000-274 F9EJ31AD-LCSD
Prep Date.....: 02/11/04 Analysis Date..: 02/17/04
Prep Batch #...: 4042274
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
2-Methylphenol	100	71.4	ug/L	71		SW846 8270C
	100	69.8	ug/L	70	2.2	SW846 8270C
3-Methylphenol & 4-Methylphenol	200	129	ug/L	64		SW846 8270C
	200	129	ug/L	65	0.23	SW846 8270C
Pentachlorophenol	100	44.3 a	ug/L	44		SW846 8270C
	100	59.9	ug/L	60	30	SW846 8270C
2,4,5-Trichlorophenol	100	64.2	ug/L	64		SW846 8270C
	100	70.1	ug/L	70	8.7	SW846 8270C
2,4,6-Trichlorophenol	100	71.6	ug/L	72		SW846 8270C
	100	74.2	ug/L	74	3.5	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	48	(10 - 74)
	47	(10 - 74)
Phenol-d5	38	(10 - 54)
	37	(10 - 54)
2,4,6-Tribromophenol	67	(18 - 140)
	72	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 Work Order #...: F9EJ31AC-LCS Matrix.....: SOLID
LCS Lot-Sample#: G4B110000-274 F9EJ31AD-LCSD
Prep Date.....: 02/11/04 Analysis Date..: 02/17/04
Prep Batch #...: 4042274
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2-Methylphenol	71	(50 - 150)			SW846 8270C
	70	(50 - 150)	2.2	(0-50)	SW846 8270C
3-Methylphenol & 4-Methylphenol	64	(50 - 150)			SW846 8270C
	65	(50 - 150)	0.23	(0-50)	SW846 8270C
Pentachlorophenol	44 a	(50 - 150)			SW846 8270C
	60	(50 - 150)	30	(0-50)	SW846 8270C
2,4,5-Trichlorophenol	64	(50 - 150)			SW846 8270C
	70	(50 - 150)	8.7	(0-50)	SW846 8270C
2,4,6-Trichlorophenol	72	(50 - 150)			SW846 8270C
	74	(50 - 150)	3.5	(0-50)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	48	(10 - 74)
	47	(10 - 74)
Phenol-d5	38	(10 - 54)
	37	(10 - 54)
2,4,6-Tribromophenol	67	(18 - 140)
	72	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 Work Order #...: F9EJ31AF Matrix.....: SOLID
LCS Lot-Sample#: G4B110000-274
Prep Date.....: 02/11/04 Analysis Date..: 02/17/04
Prep Batch #...: 4042274
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2-Methylphenol	500	344	ug/L	69	SW846 8270C
3-Methylphenol & 4-Methylphenol	1000	636	ug/L	64	SW846 8270C
Pentachlorophenol	500	308	ug/L	62	SW846 8270C
2,4,5-Trichloro-phenol	500	349	ug/L	70	SW846 8270C
2,4,6-Trichloro-phenol	500	373	ug/L	75	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(10 - 74)
Phenol-d5	54	(10 - 54)
2,4,6-Tribromophenol	111	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4B030164 Work Order #...: F9EJ31AF Matrix.....: SOLID
LCS Lot-Sample#: G4B110000-274
Prep Date.....: 02/11/04 Analysis Date..: 02/17/04
Prep Batch #...: 4042274
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2-Methylphenol	69	(50 - 150)	SW846 8270C
3-Methylphenol & 4-Methylphenol	64	(50 - 150)	SW846 8270C
Pentachlorophenol	62	(50 - 150)	SW846 8270C
2,4,5-Trichlorophenol	70	(50 - 150)	SW846 8270C
2,4,6-Trichlorophenol	75	(50 - 150)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(10 - 74)
Phenol-d5	54	(10 - 54)
2,4,6-Tribromophenol	111	(18 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

SOIL

P. 1 of

Chain of Custody

0402012

LABORATORY NUMBER:

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): R Ruben

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

PROJECT INFORMATION
Project Number: 003154
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS	PHENOLS. 8270	TCP/TCP CAN PUMP.	8260 LIST 9	PRESERVATIVE
	DT-1 @ 6'	1-21-04	945	S	1	~~X~~	~~X~~	~~X~~ HOLD	
	DT-2 @ 3.5'	1-21-04	1100		1	H	H	H	
	DT-3 @ 6'	1-21-04	1030		1	H	H	H	
	SLR-1 @ 3.5'	1-21-04	13:05	S	1	H	H	H	
	SLR-2 @ 6.5'	1-21-04	1525	S	1	H	H	H	
	SLR-3 @ 7.5'	1-21-04	1600		1	H	H	H	
	MW-7 @ 7'	1-22-04	1035		1	H	H	H	
	MW-8 @ 9'	1-22-04	830		1	H &	H	H	

SAMPLE CONDITION/SPECIAL INSTRUCTIONS
HOLD ALL SAMPLES FOR POSSIBLE LEACHABILITY TEST USING DEIONIZED WATER AND NO SHAKING THE SAMPLE.

Cooler temp = 9.4 C

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Josh Tyler	1645 1-22-04	[signature]	1/22/04 1645

SAMPLE DISPOSAL
☑ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

SEVERN TRENT STL

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Tel: 916 373 5600 Fax: 916 372 1059
www.stl-inc.com

March 1, 2004

STL SACRAMENTO PROJECT NUMBER: G4B100265
PO/CONTRACT:

Loretta Tomlin
North Coast Labs
5680 West End Road
Arcata, CA 95521

Dear Ms. Tomlin,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on February 10, 2004. These samples are associated with your 0402152 project.

The test results in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4384.

Sincerely,

Karen Dahl
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G4B100265

Case Narrative

STL Sacramento Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

WATER, 8270C, Phenols
Samples: 1, 2, 3, 4, 5, 6, 7, 8, 9
- Sample Data Sheets
- Method Blank Reports
- Laboratory QC Reports

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G4B100265

WATER, 8270C, Phenols
Samples 0402152-7A & 0402152-8A were filtered twice due to heavy emulsions that formed during the extraction process.

There were no other anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California*	01119CA	Utah*	QUAN1
Connecticut	PH-0691	Virginia	00178
Florida*	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Nevada	CA 044	USACE	NA
New Jersey*	CA005	USDA Foreign Plant	37-82605
New York*	11666	USDA Foreign Soil	S-46613

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Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary
G4B100265

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
F9DC8	1	0402152-1A	2/5/2004 11:40 AM	2/10/2004 10:10 AM
F9DDA	2	0402152-2A	2/5/2004 11:55 AM	2/10/2004 10:10 AM
F9DDC	3	0402152-3A	2/5/2004 12:00 PM	2/10/2004 10:10 AM
F9DDE	4	0402152-4A	2/5/2004 01:00 PM	2/10/2004 10:10 AM
F9DDF	5	0402152-5A	2/5/2004 01:10 PM	2/10/2004 10:10 AM
F9DDG	6	0402152-6A	2/5/2004 02:00 PM	2/10/2004 10:10 AM
F9DDH	7	0402152-7A	2/5/2004 02:40 PM	2/10/2004 10:10 AM
F9DDK	8	0402152-8A	2/5/2004 02:55 PM	2/10/2004 10:10 AM
F9DDL	9	0402152-9A	2/5/2004	2/10/2004 10:10 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

Sub-Contract
Chain of Custody Record

NORTH COAST LABORATORIES LTD.

Date Shipped: 2/9/04 **Carrier:** UPS

Air Bill #: _____ **Cooler #:** _____

Subcontractor: STLSAC
5755 8th St. East
Seattle, WA 98424

Phone: 253 922-2310
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
	2/9/04 1500		2/10/04 1040

Analysis Request

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
0402152-1A	MW-6	2/5/04 11:40:00 AM	Phenols by EPA 8270/Water
0402152-2A	MW-5	2/5/04 11:55:00 AM	Phenols by EPA 8270/Water
0402152-3A	MW-1	2/5/04 12:00:00 PM	Phenols by EPA 8270/Water
0402152-4A	MW-2	2/5/04 1:00:00 PM	Phenols by EPA 8270/Water
0402152-5A	MW-4	2/5/04 1:10:00 PM	Phenols by EPA 8270/Water
0402152-6A	MW-3	2/5/04 2:00:00 PM	Phenols by EPA 8270/Water
0402152-7A	MW-7	2/5/04 2:40:00 PM	Phenols by EPA 8270/Water
0402152-8A	MW-8	2/5/04 2:55:00 PM	Phenols by EPA 8270/Water
0402152-9A	DUP	2/5/04	Phenols by EPA 8270/Water

RECEIVED IN GOOD CONDITION UNDER COC
FEB 10 2004
INI

Special Instructions: Please include QC Data...PLEASE ALLOW DISCUSSION DIRECTLY WITH NCL'S CLIENT (SHN-EUREKA)

Date Due: 2/19/04 Rush Charges Authorized: NO Preservative: NONE

Return Chain of Custody to NCL

5680 West End Road • Arcata California 95521-9202 • 707-822-4649 • FAX 707-822-6831
STL Sacramento (916) 373-5600

Printed on Recycled Paper

SEVERN TRENT STL

LOT RECEIPT CHECKLIST
STL Sacramento

CLIENT North Coast lab PM KD LOG # 25247

LOT# (QUANTIMS ID) G4B100265 QUOTE# ~~39173~~ 29173 2/10/04 LOCATION W19C

		Initials	Date
DATE RECEIVED 2/10/04 TIME RECEIVED 1010		[illegible]	2/10/04
DELIVERED BY	☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT ☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL ☒ UPS ☐ BAX GLOBAL ☐ GO-GETTERS ☐ STL COURIER ☐ COURIERS ON DEMAND ☐ OTHER		
CUSTODY SEAL STATUS	☐ INTACT ☐ BROKEN ☒ N/A		
CUSTODY SEAL #(S)	NA		
SHIPPPING CONTAINER(S)	☐ STL ☒ CLIENT ☐ N/A		
TEMPERTURE RECORD (IN °C)	IR 1 ☐ 2 ☐ ☒ OTHER 3		
COC #(S)	NA		
TEMPERATURE BLANK	NA		
SAMPLE TEMPERATURE	4.C		
COLLECTOR'S NAME:	☐ Verified from COC ☒ Not on COC		
pH MEASURED	☐ YES ☐ ANOMALY ☒ N/A		
LABELED BY			
LABELS CHECKED BY			
PEER REVIEW	☒ NA		
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING		
	WETCHEM ☒ N/A		
	VOA-ENCORES ☒ N/A		
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL	☒ N/A		
☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES	☐ N/A		
☐ Clouseau ☐ TEMPERATURE EXCEEDED (2 °-6 °C)	☒ N/A		
☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED	☐ PM NOTIFIED		

Notes:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
[illegible] *																				
[illegible] *																				
___AGB	1								9	1										
GBs																				
50AGB																				
50AGBs																				
50AGBn																				
50AGBna																				
___AGJ																				
00AGJ																				
50AGJ																				
25AGJ																				
___CGJ																				
00CGJ																				
50CGJ																				
25CGJ																				
___PB/PJ																				
___PBn/PJn																				
500PB/PJ																				
500PBn/PJn																				
500PBna																				
500PBzn/na																				
250PB																				
250PBn																				
250PBna																				
250PBzn/na																				
___*CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

WATER, 8270C, Phenols

NORTH COAST LABS

Client Sample ID: 0402152-1A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-001
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DC81AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	67	(35 - 105)
2-Fluorophenol	41	(11 - 74)
Phenol-d5	25	(11 - 47)
2,4,6-Tribromophenol	59	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-2A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-002 Work Order #...: F9DDA1AA Matrix.....: WATER
Date Sampled...: 02/05/04 Date Received..: 02/10/04
Prep Date.....: 02/11/04 Analysis Date..: 02/20/04
Prep Batch #...: 4042279
Dilution Factor: 1 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	60	(35 - 105)
2-Fluorophenol	35	(11 - 74)
Phenol-d5	23	(11 - 47)
2,4,6-Tribromophenol	73	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-3A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-003
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDC1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Method.....: SW846 8270C

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	65	(35 - 105)
2-Fluorophenol	40	(11 - 74)
Phenol-d5	25	(11 - 47)
2,4,6-Tribromophenol	74	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-4A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-004 Work Order #...: F9DDE1AA Matrix.....: WATER
Date Sampled...: 02/05/04 Date Received..: 02/10/04
Prep Date.....: 02/11/04 Analysis Date..: 02/20/04
Prep Batch #...: 4042279
Dilution Factor: 1 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	70	(35 - 105)
2-Fluorophenol	43	(11 - 74)
Phenol-d5	26	(11 - 47)
2,4,6-Tribromophenol	67	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-5A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-005
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDF1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	54	(35 - 105)
2-Fluorophenol	30	(11 - 74)
Phenol-d5	20	(11 - 47)
2,4,6-Tribromophenol	59	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-6A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-006
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDG1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	71	(35 - 105)
2-Fluorophenol	45	(11 - 74)
Phenol-d5	27	(11 - 47)
2,4,6-Tribromophenol	74	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-7A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-007
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDH1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	75	(35 - 105)
2-Fluorophenol	51	(11 - 74)
Phenol-d5	31	(11 - 47)
2,4,6-Tribromophenol	81	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-8A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-008
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDK1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	76	(35 - 105)
2-Fluorophenol	50	(11 - 74)
Phenol-d5	30	(11 - 47)
2,4,6-Tribromophenol	86	(37 - 117)

NORTH COAST LABS

Client Sample ID: 0402152-9A

GC/MS Semivolatiles

Lot-Sample #...: G4B100265-009
Date Sampled...: 02/05/04
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9DDL1AA
Date Received..: 02/10/04
Analysis Date..: 02/20/04

Matrix.....: WATER

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	10	ug/L
2-Chlorophenol	ND	10	ug/L
2,4-Dichlorophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
2-Methylphenol	ND	10	ug/L
3-Methylphenol & 4-Methylphenol	ND	20	ug/L
2-Nitrophenol	ND	10	ug/L
4-Nitrophenol	ND	50	ug/L
Pentachlorophenol	ND	50	ug/L
Phenol	ND	10	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L
4,6-Dinitro-2-methylphenol	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	72	(35 - 105)
2-Fluorophenol	44	(11 - 74)
Phenol-d5	27	(11 - 47)
2,4,6-Tribromophenol	72	(37 - 117)

QC DATA ASSOCIATION SUMMARY

G4B100265

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8270C		4042279	
002	WATER	SW846 8270C		4042279	
003	WATER	SW846 8270C		4042279	
004	WATER	SW846 8270C		4042279	
005	WATER	SW846 8270C		4042279	
006	WATER	SW846 8270C		4042279	
007	WATER	SW846 8270C		4042279	
008	WATER	SW846 8270C		4042279	
009	WATER	SW846 8270C		4042279	

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: G4B100265
MB Lot-Sample #: G4B110000-279

Work Order #...: F9EKK1AA

Matrix.....: WATER

Prep Date.....: 02/11/04
Prep Batch #...: 4042279

Analysis Date..: 02/20/04
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270C
2-Chlorophenol	ND	10	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	50	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270C
2-Methylphenol	ND	10	ug/L	SW846 8270C
2-Nitrophenol	ND	10	ug/L	SW846 8270C
4-Nitrophenol	ND	50	ug/L	SW846 8270C
Pentachlorophenol	ND	50	ug/L	SW846 8270C
Phenol	ND	10	ug/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	10	ug/L	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	20	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	76	(35 - 105)
2-Fluorophenol	50	(11 - 74)
Phenol-d5	31	(11 - 47)
2,4,6-Tribromophenol	67	(37 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4B100265
LCS Lot-Sample#: G4B110000-279
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9EKK1AC-LCS
F9EKK1AD-LCSD
Analysis Date..: 02/20/04

Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
4-Chloro-3-methylphenol	100	83.2	ug/L	83		SW846 8270C
	100	83.3	ug/L	83	0.20	SW846 8270C
2-Chlorophenol	100	80.5	ug/L	81		SW846 8270C
	100	77.0	ug/L	77	4.5	SW846 8270C
4-Nitrophenol	100	63.8	ug/L	64		SW846 8270C
	100	64.2	ug/L	64	0.65	SW846 8270C
Pentachlorophenol	100	98.2	ug/L	98		SW846 8270C
	100	96.1	ug/L	96	2.2	SW846 8270C
Phenol	100	39.5	ug/L	39		SW846 8270C
	100	38.3	ug/L	38	3.1	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	78	(35 - 105)
	77	(35 - 105)
2-Fluorophenol	48	(11 - 74)
	51	(11 - 74)
Phenol-d5	34	(11 - 47)
	38	(11 - 47)
2,4,6-Tribromophenol	97	(37 - 117)
	97	(37 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4B100265
LCS Lot-Sample#: G4B110000-279
Prep Date.....: 02/11/04
Prep Batch #...: 4042279
Dilution Factor: 1

Work Order #...: F9EKK1AC-LCS
F9EKK1AD-LCSD
Analysis Date..: 02/20/04

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
4-Chloro-3-methylphenol	83	(58 - 111)			SW846 8270C
	83	(58 - 111)	0.20	(0-22)	SW846 8270C
2-Chlorophenol	81	(47 - 102)			SW846 8270C
	77	(47 - 102)	4.5	(0-25)	SW846 8270C
4-Nitrophenol	64	(10 - 82)			SW846 8270C
	64	(10 - 82)	0.65	(0-45)	SW846 8270C
Pentachlorophenol	98	(30 - 129)			SW846 8270C
	96	(30 - 129)	2.2	(0-24)	SW846 8270C
Phenol	39	(18 - 58)			SW846 8270C
	38	(18 - 58)	3.1	(0-30)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	78	(35 - 105)
	77	(35 - 105)
2-Fluorophenol	48	(11 - 74)
	51	(11 - 74)
Phenol-d5	34	(11 - 47)
	38	(11 - 47)
2,4,6-Tribromophenol	97	(37 - 117)
	97	(37 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

P. 1 1

0402152

LABORATORY NUMBER: ~~0402145~~

Attention: Frans Lawman
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): David R. Paine David R. Paine

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☒ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☐ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 003154
Project Name: Simpson Reman Facility
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS: 8260 list 9	PCP/FCP	Canadian Pulp	Phenols by 8270	CONTAINER	PRESERVATIVE
	MW-6	2/5/04	1140	GW	X	X	X	X	9	b
	MW-5	↓	1155	↓	X	X	X	X		
	MW-1		1200		X	X	X	X		
	MW-2		1300		X	X	X	X		
	MW-4		1310		X	X	X	X		
	MW-3		1400		X	X	X	X		
	MW-7		1440		X	X	X	X		
	MW-8	↓	1455	↓	X	X	X	X		
	Trip Blank	2/5/04	—	—	X			X		
	DUP	↓	—	GW	X	X	X	X		

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
David R. Paine David R. Paine	1525 2/5/04	[signature]	2/5/04 1525

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

Cooler temps = 10.1°C
10.9°C

SAMPLE DISPOSAL
☒ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

SEVERN TRENT STL

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Tel: 916 373 5600 Fax: 916 372 1059
www.stl-inc.com

REC'D MAR 0 2 2004

February 23, 2004

STL SACRAMENTO PROJECT NUMBER: G4B020126
PO/CONTRACT:

Loretta Tomlin
North Coast Labs
5680 West End Road
Arcata, CA 95521

Dear Ms. Tomlin,

This report contains the analytical results for the sample received under chain of custody by STL Sacramento on January 30, 2004. This sample is associated with your 0401391 project. As requested on 2/3/04, sample 0401391-1B was taken off of hold and was analyzed for EPA Method 8280A.

The test results in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4384.

Sincerely,

K Dahl

Karen Dahl
Project Manager

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G4B020126

General Comments
As discussed, only a half a liter of sample was extracted due to the amount of sediment present in the sample.

There were no other anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California*	01119CA	Utah*	QUAN1
Connecticut	PH-0691	Virginia	00178
Florida*	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Nevada	CA 044	USACE	NA
New Jersey*	CA005	USDA Foreign Plant	37-82605
New York*	11666	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request.

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

SAMPLE SUMMARY

G4B020126

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
F8WXC	001	0401391-1B	01/21/04	09:50

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

NORTH COAST LABORATORIES LTD.

Sub-Contract
Chain of Custody Record

Date Shipped: 1/22/04 Carrier: UPS

Air Bill #: _____ Cooler #: _____

Subcontractor: STLSAC
5755 8th St. East
Seattle, WA 98424

Phone: 253 922-2310
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
[signature]	1/22/04 1530	[signature]	1-23-04 1020

Analysis Request

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
0401391-1A	DT-1	1/21/04 9:50:00 AM	PHENOLS-8270
0401391-2A	DT-2	1/21/04 11:15:00 AM	PHENOLS-8270
0401391-3A	DT-3	1/21/04 10:40:00 AM	PHENOLS-8270
0401391-4A	DUP	1/21/04	PHENOLS-8270
0401391-1B	DT-1	1/21/04 9:50:00 AM	HOLD
0401391-2B	DT-2	1/21/04 11:15:00 AM	HOLD
0401391-3B	DT-3	1/21/04 10:40:00 AM	HOLD

holding for possible further analyses

RECEIVED IN GOOD CONDITION UNDER COC
JAN 23 2004
INI GC

Special Instructions: Please include QC Data.....RUSH!!

Date Due: ~~1/28/04~~ 1/30/04

Rush Charges Authorized: yes

Preservative: NONE

Return Chain of Custody to NCL

5680 West End Road • Arcata California 95521-9202 • 707-822-4649 • FAX 707-822-6831
STL Sacramento (916) 373 - 5600

Printed on Recycled Paper

SEVERN TRENT STL

LOT RECEIPT CHECKLIST
STL Sacramento

CLIENT NORTH COAST PM KO LOG # 15002

LOT# (QUANTIMS ID) ~~G4A230201~~ G4B020126 KS 2/23/04 QUOTE# 29173 LOCATION W16A

		Initials	Date
DATE RECEIVED 1-23-04 TIME RECEIVED 1015		GC	1-23-04
DELIVERED BY	☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT ☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL ☒ UPS ☐ BAX GLOBAL ☐ GO-GETTERS ☐ STL COURIER ☐ COURIERS ON DEMAND ☐ OTHER		
CUSTODY SEAL STATUS	☐ INTACT ☐ BROKEN ☒ N/A		
CUSTODY SEAL #(S)			
SHIPPPING CONTAINER(S)	☐ STL ☒ CLIENT ☐ N/A		
TEMPERTURE RECORD (IN °C)	IR 1☐ 2☐ ☒ OTHER IR-3		
COC #(S)			
TEMPERATURE BLANK			
SAMPLE TEMPERATURE	3°		
COLLECTOR'S NAME:	☐ Verified from COC ☒ Not on COC		
pH MEASURED	☐ YES ☐ ANOMALY ☒ N/A		
LABELED BY			
LABELS CHECKED BY			
PEER REVIEW	☒ NA		
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING		
	WETCHEM ☒ N/A		
	VOA-ENCORES ☒ N/A		
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL	☒ N/A		
☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES	☐ N/A		
☐ Clouseau ☐ TEMPERATURE EXCEEDED (2 °-6 °C)	☒ N/A		
☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED	☐ PM NOTIFIED		

Notes:

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
)A *																				
*																				
___AGB																				
GBs																				
50AGB																				
50AGBs																				
50AGBn																				
50AGBna																				
___AGJ																				
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25AGJ																				
___CGJ																				
00CGJ																				
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25CGJ																				
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250PBn																				
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250PBzn/na																				
___"CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

NORTH COAST LABS

Client Sample ID: 0401391-1B

Trace Level Organic Compounds

Lot-Sample #...: G4B020126-001 Work Order #...: F8WXC1AA Matrix.....: WATER
Date Sampled...: 01/21/04 Date Received..: 01/23/04
Prep Date.....: 02/06/04 Analysis Date..: 02/10/04
Prep Batch #...: 4037402
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.38	ng/L	SW846 8280A
Total TCDD	ND	0.38	ng/L	SW846 8280A
1,2,3,7,8-PeCDD	ND	1.2	ng/L	SW846 8280A
Total PeCDD	ND	1.4	ng/L	SW846 8280A
1,2,3,4,7,8-HxCDD	ND	0.38	ng/L	SW846 8280A
1,2,3,6,7,8-HxCDD	ND	0.83	ng/L	SW846 8280A
1,2,3,7,8,9-HxCDD	ND	0.49	ng/L	SW846 8280A
Total HxCDD	ND	1.6	ng/L	SW846 8280A
1,2,3,4,6,7,8-HpCDD	ND	0.73	ng/L	SW846 8280A
Total HpCDD	ND	0.73	ng/L	SW846 8280A
OCDD	ND	4.0	ng/L	SW846 8280A
2,3,7,8-TCDF	ND	0.15	ng/L	SW846 8280A
Total TCDF	ND	1.3	ng/L	SW846 8280A
1,2,3,7,8-PeCDF	ND	0.53	ng/L	SW846 8280A
2,3,4,7,8-PeCDF	ND	0.33	ng/L	SW846 8280A
Total PeCDF	ND	0.54	ng/L	SW846 8280A
1,2,3,4,7,8-HxCDF	ND	0.40	ng/L	SW846 8280A
1,2,3,6,7,8-HxCDF	ND	0.39	ng/L	SW846 8280A
2,3,4,6,7,8-HxCDF	ND	0.56	ng/L	SW846 8280A
1,2,3,7,8,9-HxCDF	ND	0.44	ng/L	SW846 8280A
Total HxCDF	ND	0.99	ng/L	SW846 8280A
1,2,3,4,6,7,8-HpCDF	ND	0.92	ng/L	SW846 8280A
1,2,3,4,7,8,9-HpCDF	ND	1.4	ng/L	SW846 8280A
Total HpCDF	ND	1.5	ng/L	SW846 8280A
OCDF	ND	2.5	ng/L	SW846 8280A

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(25 - 150)
13C-2,3,7,8-TCDF	88	(25 - 150)
13C-1,2,3,6,7,8-HxCDD	85	(25 - 150)
13C-1,2,3,4,6,7,8-HpCDF	69	(25 - 150)
13C-OCDD	69	(25 - 150)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	111	(25 - 150)

QC DATA ASSOCIATION SUMMARY

G4B020126

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8280A		4037402	

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G4B020126
MB Lot-Sample #: G4B060000-402

Work Order #...: F87741AA

Matrix.....: WATER

Prep Date.....: 02/06/04
Prep Batch #...: 4037402

Analysis Date..: 02/10/04
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.17	ng/L	SW846 8280A
Total TCDD	ND	0.17	ng/L	SW846 8280A
1,2,3,7,8-PeCDD	ND	0.51	ng/L	SW846 8280A
Total PeCDD	ND	0.63	ng/L	SW846 8280A
1,2,3,4,7,8-HxCDD	ND	0.26	ng/L	SW846 8280A
1,2,3,6,7,8-HxCDD	ND	0.30	ng/L	SW846 8280A
1,2,3,7,8,9-HxCDD	ND	0.23	ng/L	SW846 8280A
Total HxCDD	ND	0.64	ng/L	SW846 8280A
1,2,3,4,6,7,8-HpCDD	ND	0.48	ng/L	SW846 8280A
Total HpCDD	ND	0.48	ng/L	SW846 8280A
OCDD	ND	1.2	ng/L	SW846 8280A
2,3,7,8-TCDF	ND	0.10	ng/L	SW846 8280A
Total TCDF	ND	0.80	ng/L	SW846 8280A
1,2,3,7,8-PeCDF	ND	0.24	ng/L	SW846 8280A
2,3,4,7,8-PeCDF	ND	0.26	ng/L	SW846 8280A
Total PeCDF	ND	0.31	ng/L	SW846 8280A
1,2,3,4,7,8-HxCDF	ND	0.30	ng/L	SW846 8280A
1,2,3,6,7,8-HxCDF	ND	0.29	ng/L	SW846 8280A
2,3,4,6,7,8-HxCDF	ND	0.19	ng/L	SW846 8280A
1,2,3,7,8,9-HxCDF	ND	0.22	ng/L	SW846 8280A
Total HxCDF	ND	0.49	ng/L	SW846 8280A
1,2,3,4,6,7,8-HpCDF	ND	0.41	ng/L	SW846 8280A
1,2,3,4,7,8,9-HpCDF	ND	0.72	ng/L	SW846 8280A
Total HpCDF	ND	0.90	ng/L	SW846 8280A
OCDF	ND	1.1	ng/L	SW846 8280A

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	(25 - 150)
13C-2,3,7,8-TCDF	78	(25 - 150)
13C-1,2,3,6,7,8-HxCDD	75	(25 - 150)
13C-1,2,3,4,6,7,8-HpCDF	70	(25 - 150)
13C-OCDD	65	(25 - 150)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	106	(25 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G4B020126 Work Order #...: F87741AC Matrix.....: WATER
LCS Lot-Sample#: G4B060000-402
Prep Date.....: 02/06/04 Analysis Date..: 02/10/04
Prep Batch #...: 4037402
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	25.0	27.6	ng/L	111	SW846 8280A
1,2,3,7,8-PeCDD	62.5	72.0	ng/L	115	SW846 8280A
1,2,3,6,7,8-HxCDD	62.5	62.1	ng/L	99	SW846 8280A
1,2,3,4,6,7,8-HpCDD	62.5	59.0	ng/L	94	SW846 8280A
OCDD	125	131	ng/L	105	SW846 8280A
2,3,7,8-TCDF	25.0	24.2	ng/L	97	SW846 8280A
1,2,3,7,8-PeCDF	62.5	70.6	ng/L	113	SW846 8280A
1,2,3,6,7,8-HxCDF	62.5	71.7	ng/L	115	SW846 8280A
1,2,3,4,6,7,8-HpCDF	62.5	65.5	ng/L	105	SW846 8280A
OCDF	125	129	ng/L	103	SW846 8280A

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	79	(25 - 150)
13C-2,3,7,8-TCDF	77	(25 - 150)
13C-1,2,3,6,7,8-HxCDD	84	(25 - 150)
13C-1,2,3,4,6,7,8-HpCDF	75	(25 - 150)
13C-OCDD	81	(25 - 150)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	107	(25 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G4B020126 Work Order #...: F87741AC Matrix.....: WATER
LCS Lot-Sample#: G4B060000-402
Prep Date.....: 02/06/04 Analysis Date..: 02/10/04
Prep Batch #...: 4037402
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**111**	**(67 - 127)**	**SW846 8280A**
1,2,3,7,8-PeCDD	**115**	**(66 - 140)**	**SW846 8280A**
1,2,3,6,7,8-HxCDD	**99**	**(73 - 126)**	**SW846 8280A**
1,2,3,4,6,7,8-HpCDD	**94**	**(70 - 129)**	**SW846 8280A**
OCDD	**105**	**(58 - 118)**	**SW846 8280A**
2,3,7,8-TCDF	**97**	**(21 - 129)**	**SW846 8280A**
1,2,3,7,8-PeCDF	**113**	**(70 - 144)**	**SW846 8280A**
1,2,3,6,7,8-HxCDF	**115**	**(67 - 125)**	**SW846 8280A**
1,2,3,4,6,7,8-HpCDF	**105**	**(68 - 123)**	**SW846 8280A**
OCDF	**103**	**(59 - 119)**	**SW846 8280A**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	79	(25 - 150)
13C-2,3,7,8-TCDF	77	(25 - 150)
13C-1,2,3,6,7,8-HxCDD	84	(25 - 150)
13C-1,2,3,4,6,7,8-HpCDF	75	(25 - 150)
13C-OCDD	81	(25 - 150)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	107	(25 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

DIP TANK

P. 1 1

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

LABORATORY NUMBER: 040391

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): R Rueben

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☐ STD (2–3 Wk) ☐ Other: *
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☐ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 003154
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	PHENOLS - 8270	PCP/TCP CAN PUB	8260 LIST 9	DIOXIN/FURAN
	DT-1	1-21-04	950	GW		6	X	X	X	H
	DT-2	1-21-04	1115			6	X	X	X	H
	DT-3	1-21-04	1040			6	X	X	X	H
	TB-1			⊘		1			X	
	DUP	1-21-04		GW		5	X	X	X	

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

DIOXIN/FURANS FOR REGULAR TURNAROUND. ANALYZE 1 SAMPLE ONLY FROM SAMPLE LOCATION WITH HIGHEST PCP IF NO PCP DETECTED CALL FRANS LOWMAN TO DETERMINE WHICH SAMPLE TO RUN

cooler blank = 10.2°C

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
R Rueben 1/21/04	17:00	R. Thompson	1/21/04 1700

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

REC'D MAR 0 3 2004

ANALYTICAL REPORT

Northcoast Laboratories
5680 West End Road
Arcata, CA 95521
Job#:

Attn: Loretta Tomlin
Phone: (707) 822-4649
Fax: (707) 822-6831

Alpha Analytical Number: NOC04020342-01A
Client I.D. Number: 0402011-1A/DT-3 @ 6ft. (TCLP)

Sampled: 01/21/04
Received: 02/03/04
Analyzed: 02/04/04

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit
1	Chloromethane	ND	2.0 µg/L
2	Vinyl chloride	ND	1.0 µg/L
3	Chloroethane	ND	1.0 µg/L
4	Bromomethane	ND	1.0 µg/L
5	Trichlorofluoromethane	ND	1.0 µg/L
6	1,1-Dichloroethene	ND	1.0 µg/L
7	Dichloromethane	ND	2.0 µg/L
8	trans-1,2-Dichloroethene	ND	1.0 µg/L
9	1,1-Dichloroethane	ND	1.0 µg/L
)	cis-1,2-Dichloroethene	ND	1.0 µg/L
11	Chloroform	ND	1.0 µg/L
12	1,2-Dichloroethane	ND	1.0 µg/L
13	1,1,1-Trichloroethane	ND	1.0 µg/L
14	Carbon tetrachloride	ND	1.0 µg/L
15	Benzene	3.1	0.50 µg/L
16	1,2-Dichloropropane	ND	1.0 µg/L
17	Trichloroethene	ND	1.0 µg/L
18	Bromodichloromethane	ND	1.0 µg/L
19	cis-1,3-Dichloropropene	ND	1.0 µg/L
20	trans-1,3-Dichloropropene	ND	1.0 µg/L
21	1,1,2-Trichloroethane	ND	1.0 µg/L
22	Toluene	1.6	0.50 µg/L
23	Dibromochloromethane	ND	1.0 µg/L
24	Tetrachloroethene	ND	1.0 µg/L
25	Chlorobenzene	ND	1.0 µg/L
26	Ethylbenzene	ND	0.50 µg/L
27	m,p-Xylene	ND	0.50 µg/L
28	Bromoform	ND	1.0 µg/L
29	o-Xylene	ND	0.50 µg/L
30	1,1,2,2-Tetrachloroethane	ND	1.0 µg/L
31	1,3-Dichlorobenzene	ND	1.0 µg/L
32	1,4-Dichlorobenzene	ND	1.0 µg/L
33	1,2-Dichlorobenzene	ND	1.0 µg/L

This analysis was performed on a TCLP extract using D.I. Water.

ND = Not Detected

R Scholl Randy Gardner Walter Hinchman

2/12/04
Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Wichita, KS • (316) 722-5890 / info@alpha-analytical.com

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Northcoast Laboratories
5680 West End Road
Arcata, CA 95521
Job#:

Attn: Loretta Tomlin
Phone: (707) 822-4649
Fax: (707) 822-6831

Alpha Analytical Number: NOC04020342-02A
Client I.D. Number: 0402011-2A/SLR-3 @ 7.5ft. (TCLP)

Sampled: 01/21/04
Received: 02/03/04
Analyzed: 02/04/04

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit		Compound	Concentration	Reporting Limit
1	Chloromethane	ND	2.0 µg/L	26	Ethylbenzene	ND	0.50 µg/L
2	Vinyl chloride	ND	1.0 µg/L	27	m,p-Xylene	ND	0.50 µg/L
3	Chloroethane	ND	1.0 µg/L	28	Bromoform	ND	1.0 µg/L
4	Bromomethane	ND	1.0 µg/L	29	o-Xylene	ND	0.50 µg/L
5	Trichlorofluoromethane	ND	1.0 µg/L	30	1,1,2,2-Tetrachloroethane	ND	1.0 µg/L
6	1,1-Dichloroethene	ND	1.0 µg/L	31	1,3-Dichlorobenzene	ND	1.0 µg/L
7	Dichloromethane	ND	2.0 µg/L	32	1,4-Dichlorobenzene	ND	1.0 µg/L
8	trans-1,2-Dichloroethene	ND	1.0 µg/L	33	1,2-Dichlorobenzene	ND	1.0 µg/L
9	1,1-Dichloroethane	ND	1.0 µg/L				
10	cis-1,2-Dichloroethene	ND	1.0 µg/L				
11	Chloroform	ND	1.0 µg/L				
12	1,2-Dichloroethane	ND	1.0 µg/L				
13	1,1,1-Trichloroethane	ND	1.0 µg/L				
14	Carbon tetrachloride	ND	1.0 µg/L				
15	Benzene	ND	0.50 µg/L				
16	1,2-Dichloropropane	ND	1.0 µg/L				
17	Trichloroethene	ND	1.0 µg/L				
18	Bromodichloromethane	ND	1.0 µg/L				
19	cis-1,3-Dichloropropene	ND	1.0 µg/L				
20	trans-1,3-Dichloropropene	ND	1.0 µg/L				
21	1,1,2-Trichloroethane	ND	1.0 µg/L				
22	Toluene	ND	0.50 µg/L				
23	Dibromochloromethane	ND	1.0 µg/L				
24	Tetrachloroethene	ND	1.0 µg/L				
25	Chlorobenzene	ND	1.0 µg/L				

This analysis was performed on a TCLP extract using D.I. Water.

ND = Not Detected

R Scholl Randy Gardner Walter Hinchman

2/12/04
Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Wichita, KS • (316) 722-5890 / info@alpha-analytical.com

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date: *18-Feb-04*

QC Summary Report

Work Order: 04020342

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS07\DATA\040204\04020405.D** Batch ID: **MS07W0204A** Analysis Date: **02/04/2004 11:13**

Sample ID: **MBLK MS07W0204A** Units : **µg/L** Run ID: **GC/MSD_7_040204A** Prep Date: **02/04/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Chloromethane	ND	2								
Vinyl chloride	ND	1								
Chloroethane	ND	1								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	1								
1,1-Dichloroethene	ND	1								
Dichloromethane	ND	2								
trans-1,2-Dichloroethene	ND	1								
1,1-Dichloroethane	ND	1								
cis-1,2-Dichloroethene	ND	1								
Chloroform	ND	1								
1,2-Dichloroethane	ND	1								
1,1,1-Trichloroethane	ND	1								
Carbon tetrachloride	ND	1								
Benzene	ND	0.5								
1,2-Dichloropropane	ND	1								
Trichloroethene	ND	1								
Bromodichloromethane	ND	1								
cis-1,3-Dichloropropene	ND	1								
trans-1,3-Dichloropropene	ND	1								
1,1,2-Trichloroethane	ND	1								
Toluene	ND	0.5								
Dibromochloromethane	ND	1								
trachloroethene	ND	1								
nlorobenzene	ND	1								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	1								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	1								
1,3-Dichlorobenzene	ND	1								
1,4-Dichlorobenzene	ND	1								
1,2-Dichlorobenzene	ND	1								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS07\DATA\040204\04020404.D** Batch ID: **MS07W0204A** Analysis Date: **02/04/2004 10:52**

Sample ID: **LCS MS07W0204A** Units : **µg/L** Run ID: **GC/MSD_7_040204A** Prep Date: **02/04/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
1,1-Dichloroethene	10.3	1	10		103	80	120			
Benzene	10.6	0.5	10		106	83	119			
Trichloroethene	10.2	1	10		102	76	127			
Toluene	10.3	0.5	10		103	80	120			
Chlorobenzene	9.52	1	10		95	76	124			
Ethylbenzene	10	0.5	10		100	80	120			
m,p-Xylene	21.2	0.5	20		106	77	125			
o-Xylene	10.3	0.5	10		103	77	124			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Billing Information

CHAIN-OF-CUSTODY RECORD

CA

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : NOC04020342

Report Due By : 5:00 PM On : 13-Feb-04

Client:
Northcoast Laboratories
5680 West End Road

Arcata, CA 95521

Loretta Tomlin
TEL : (707) 822-4649
FAX : (707) 822-6831

EDD Required : **No**

Report Attention : Loretta Tomlin
CC Report :

Job :
PO :

Client's COC # : none

Sampled by : Client
Cooler Temp : 4 °C

03-Feb-04

QC Level : 3 = Final Rpt, MBLK, LCS, MS/MSD

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles ORG	SUB	TAT	PWS #	TCLPMOD_VOC_PREP	VOC_S	Requested Tests			Sample Remarks
NOC04020342-01A	0402011-1A/DT-3 @ 6ft. (TCLP)	SO	01/21/04 10:30	1	0	8		TCLP-use DI Extraction Fluid	8260_Cs				**TCLP-use DI Extraction Fluid.
NOC04020342-02A	0402011-2A/SLR-3 @ 7.5ft. (TCLP)	SO	01/21/04 16:00	1	0	8		TCLP-use DI Extraction Fluid	8260_Cs				**TCLP-use DI Extraction Fluid.

Comments: No custody seal. Frozen ice. CA sample. Please include QC data. Please DI water for extraction fluid--Do not centrifuge--OK to discuss results with SHN-Eureka. Samples received with one day remaining of 14 day hold time. :

	Signature	Print Name	Company	Date/Time
Received by:	DSBaker	DSBaker	Alpha Analytical, Inc.	2/3/04 1250

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

EPA 8260B ANALYTE LIST
With Reporting Limits for Water & Soil

1,1,1-Trichloroethane	1.0	0.020
1,1,2,2-Tetrachloroethane	1.0	0.020
1,1,2-Trichloroethane	1.0	0.020
1,1-Dichloroethane	1.0	0.020
1,1-Dichloroethene	1.0	0.020
1,2-Dichlorobenzene	1.0	0.020
1,2-Dichloroethane	1.0	0.020
1,2-Dichloropropane	1.0	0.020
1,3-Dichlorobenzene	1.0	0.020
1,4-Dichlorobenzene	1.0	0.020
Benzene	0.50	0.0050
Bromodichloromethane	1.0	0.020
Bromoform	1.0	0.020
Bromomethane	1.0	0.020
Carbon Tetrachloride	1.0	0.020
Chlorobenzene	1.0	0.020
Chloroethane	1.0	0.020
Chloroform	1.0	0.020
Chloromethane	2.0	0.040
cis-1,2-Dichloroethene	1.0	0.020
cis-1,3-Dichloropropene	1.0	0.020
Dibromochloromethane	1.0	0.020
Ethylbenzene	0.50	0.0050
m,p-Xylene	0.50	0.0050
Methylene chloride +	2.0	0.040
o-Xylene	0.50	0.0050
Tetrachloroethene	1.0	0.020
Toluene	0.50	0.0050
trans-1,2-Dichloroethene	1.0	0.020
trans-1,3-Dichloropropene	1.0	0.020
Trichloroethene	1.0	0.020
Trichlorofluoromethane ✦	1.0	0.020
Vinyl chloride	1.0	0.020

this list ↑ Alpha please

EPA 8260B Extended ANALYTE LIST
With Reporting Limits for Water & Soil

1,2-Tetrachloroethane	1.0	0.020
1,[illegible]-Trichloroethane	1.0	0.020
1,1[illegible]-Tetrachloroethane	1.0	0.020
1,1,2[illegible]hloroethane	1.0	0.020
1,1-D[illegible]roethane	1.0	0.[illegible]
1,1-Dic[illegible]ethene	1.0	[illegible]
1,1-Dich[illegible]ropene	1.0	[illegible]20
1,2,3-Tric[illegible]benzene	2.0	[illegible]0.040
1,2,3-Trichl[illegible]opane	2.0	0.040
1,2,4-Trichlo[illegible]zene	2.0	0.040
1,2,4-Trimethy[illegible]zene	[illegible]	0.020
1,2-Dibromo-3-[illegible]opropane	[illegible]	0.10
1,2-Dibromoethan[illegible]DB)	[illegible]0	0.040
1,2-Dichlorobenze[illegible]	1.0	0.020
1,2-Dichloroethane	1.0	0.020
1,2-Dichloropropane	1.0	0.020
1,3,5-Trimethylbenzene	1.0	0.020
1,3-Dichlorobenzene	1.0	0.020
1,3-Dichloropropane	1.0	0.020
1,4-Dichlorobenzene	1.0	0.02[illegible]
2,2-Dichloroprop[illegible]	1.0	0.[illegible]
2-Chlorotoluene	1.0	[illegible]
4-Chlorotolue[illegible]	1.0	[illegible]20
4-Isopropylt[illegible]ne	1.0	0.020
Benzene	[illegible]50	0.0050
Bromobe[illegible]ne	[illegible]	0.020
Bromod[illegible]romomethane	[illegible]	0.020
Brom[illegible]chloromethane	[illegible]	0.020
Brom[illegible]form	1.[illegible]	0.020
Br[illegible]omethane	1.0	0.020
C[illegible]on Tetrachloride	1.0	0.020
[illegible]orobenzene	1.0	0.020
[illegible]loroethane	1.0	0.020
[illegible]hloroform	1.0	0.020
Chloromethane	2.0	0.040
cis-1,2-Dichloroethene	1.0	0.020
cis-1,3-Dichloropropene	1.0	0.020
Dibromochloromethane	1.0	0.020
Dibromomethane	1.0	0.020
Dichlorodifluoromethane	1.0	0.020

EPA 8260B Extended ANALYTE LIST
Continued

Eth[illegible]nzene	0.50	0.0[illegible]
Hexa[illegible]robutadiene	2[illegible]	0.0[illegible]
Isoprop[illegible]enzene	[illegible]	0.0[illegible]
m,p-Xyl[illegible]	[illegible].50	0.0[illegible]
Methylen[illegible]loride	2.0	0.0[illegible]
n-Butylben[illegible]e	1.0	0.0[illegible]
n-Propylben[illegible]e	1.0	0.0[illegible]
Naphthalene	2.0	0.0[illegible]
o-Xylene	0.50	0.0[illegible]
sec-Butylben[illegible]	1.0	0.0[illegible]
Styrene	1.0	0.0[illegible]
tert-But[illegible]zen[illegible]	1.0	0.0[illegible]
Tetra[illegible]oethene	1.0	0.0[illegible]
To[illegible]	0.50	0.0[illegible]
[illegible]1,2-Dichlorobe[illegible]e	1.0	0.0[illegible]
[illegible]is-1,3-Dichlorop[illegible]ne	1.0	0.0[illegible]
[illegible]richloroethene	1.0	0.0[illegible]
Trichlorofluoromethan[illegible]	1.0	0.0[illegible]
Vinyl chloride	1.0	0.0[illegible]

Sample Requirements:

Water 3 – 40 m[illegible]mber VOA with HCl
Soil Brass Tu[illegible]

Holding Times:

Water 14 Days
Soil 14 Days

North Coast Laboratories
5680 West End Road
Arcata, CA 95521
707.822.4649 Fax 707.822.6831

www.northcoastlabs.com

CA

NORTH COAST LABORATORIES LTD.

Sub-Contract
Chain of Custody Record

Date Shipped: 2/2/04 **Carrier:** UPS

Air Bill #: _____ **Cooler #:** _____

Subcontractor: Alpha Analytical - Nevada
255 Glendale Ave, #21
Sparks, NV 89431-5778

Phone: 702-355-1044
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
[signature]	2/2/04 1500	DSBaker	2/3/04 1250 DSB

Analysis Request NOC04020342

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
0402011-1A	DT-3 @ 6' (TCLP)	1/21/04 10:30:00 AM -01	TCLP 8260LIST9W
0402011-2A	SLR-3 @ 7.5' (TCLP)	1/21/04 4:00:00 PM -02	TCLP 8260LIST9W

See attached list

Special Instructions: Please include QC Data. PLEASE USE DI WATER FOR EXTRACTION FLUID--DO NOT CENTRIFUGE===OK TO DISCUSS RESULTS WITH SHN-EUREKA

Date Due: 2/13/04 Rush Charges Authorized: NO Preservative: NONE

Return Chain of Custody to NCL

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

SOIL

P. 1 of 1

Chain of Custody

0402011

LABORATORY NUMBER:

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): R Rucker

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

PROJECT INFORMATION
Project Number: 003154
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS	PHENOLS. 8270	RCP/TCP CAN PUMP.	8260 LIST 9
	DT-1 @ 6'	1-21-04	945	S	1	~~X~~	~~X~~	~~X~~ HOLD
	DT-2 @ 3.5'	1-21-04	1100		1	H	H	H
	DT-3 @ 6'	1-21-04	1030		1	H	H	H
	SLR-1 @ 3.5'	1-21-04	13:05	S	1	H	H	H
	SLR-2 @ 6.5'	1-21-04	1525	S	1	H	H	H
	SLR-3 @ 7.5'	1-21-04	1600		1	H	H	H
	MW-7 @ 7'	1-22-04	1035		1	H	H	H
	MW-8 @ 9'	1-22-04	830		1	H	H	H

SAMPLE CONDITION/SPECIAL INSTRUCTIONS
HOLD ALL SAMPLES FOR POSSIBLE LEACHABILITY TEST USING DEIONIZED WATER AND NO SHAKING THE SAMPLE.

Cooler temp = 9.4 C

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Josh Tyler	1645 1-22-04	[signature]	1/22/04 1645

SAMPLE DISPOSAL
☑ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

SEVERN TRENT STL

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Tel: 916 373 5600 Fax: 916 372 1059
www.stl-inc.com

RECD FEB 27 2004

February 17, 2004

STL SACRAMENTO PROJECT NUMBER: G4A270252
PO/CONTRACT:

Loretta Tomlin
North Coast Labs
5680 West End Road
Arcata, CA 95521

Dear Ms. Tomlin,

This report contains the analytical results for the sample received under chain of custody by STL Sacramento on January 27, 2004. This sample is associated with your 0401437 project.

The test results in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4384.

Sincerely,

K Dahl

Karen Dahl
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G4A270252

Case Narrative

STL Sacramento Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

SOLID, 8270C, Phenols
Sample: 1
- Sample Data Sheet
- Method Blank Report
- Laboratory QC Reports

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G4A270252

There were no anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California*	01119CA	Utah*	QUAN1
Connecticut	PH-0691	Virginia	00178
Florida*	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Nevada	CA 044	USACE	NA
New Jersey*	CA005	USDA Foreign Plant	37-82605
New York*	11666	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request.

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary
G4A270252

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
F8LW4	1	0401437-1A	1/22/2004	1/27/2004 10:05 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

NORTH COAST LABORATORIES LTD.

Sub-Contract
Chain of Custody Record

Date Shipped: 1/26/04 **Carrier:** ups

Air Bill #: _____ **Cooler #:** _____

Subcontractor: STLSAC
~~5755 8th St. East~~
~~Seattle, WA 98424~~
Phone: ~~253 922 2810~~
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
LT	1/26/04 1500	[signature]	1-27-04 1040

Analysis Request

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
0401437-1A	~~MW-8-DRUM 1/MW-8-DRUM 2~~	1/22/04	Phenols by EPA 8270/Soil

MW-8-DRUM 1/MW-8-DRUM 2/MW-7-DRUM 1 COMPOSITE

RECEIVED IN GOOD CONDITION
UNDER COC
JAN 27 2004
INI. GC

Special Instructions: Please include QC Data

Date Due: 2/5/04 Rush Charges Authorized: NO Preservative: NONE

Return Chain of Custody to NCL

SEVERN TRENT STL

LOT RECEIPT CHECKLIST
STL Sacramento

CLIENT NORTH COAST LABS PM KD LOG # 25036

LOT# (QUANTIMS ID) G4A270252 QUOTE# 29173 LOCATION WI5A

		Initials	Date
DATE RECEIVED 1-27-04 TIME RECEIVED 1005		GC	1-27-04
DELIVERED BY	☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT ☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL ☒ UPS ☐ BAX GLOBAL ☐ GO-GETTERS ☐ STL COURIER ☐ COURIERS ON DEMAND ☐ OTHER		
CUSTODY SEAL STATUS	☐ INTACT ☐ BROKEN ☒ N/A		
CUSTODY SEAL #(S)			
SHIPPPING CONTAINER(S)	☐ STL ☒ CLIENT ☐ N/A		
TEMPERTURE RECORD (IN °C)	IR 1☐ 2 ☐ ☒ OTHER IR3		
COC #(S)			
TEMPERATURE BLANK			
SAMPLE TEMPERATURE	3°		
COLLECTOR'S NAME:	☐ Verified from COC ☒ Not on COC		
pH MEASURED	☐ YES ☐ ANOMALY ☒ N/A		
LABELED BY			
LABELS CHECKED BY			
PEER REVIEW	☒ NA		
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING		
	WETCHEM ☒ N/A		
	VOA-ENCORES ☒ N/A		
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL	☒ N/A		
☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES	☐ N/A		
☐ Clouseau	☐ TEMPERATURE EXCEEDED (2 °-6 °C) ☒ N/A		
☐ WET ICE	☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED		☐ PM NOTIFIED

Notes:

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5A *																				
*																				
___AGB																				
5BS																				
50AGB																				
50AGBS																				
50AGBn																				
50AGBna																				
___AGJ																				
00AGJ																				
50AGJ																				
25AGJ																				
___CGJ																				
00CGJ																				
50CGJ																				
25CGJ																				
___PB/PJ																				
___PBn/PJn																				
500PB/PJ																				
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500PBna																				
500PBzn/na																				
250PB																				
250PBn																				
250PBna																				
250PBzn/na																				
___"CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

SOLID, 8270C, Phenols

NORTH COAST LABS

Client Sample ID: 0401437-1A

GC/MS Semivolatiles

Lot-Sample #...: G4A270252-001 Work Order #...: F8LW41AC Matrix.....: SOLID
Date Sampled...: 01/22/04 Date Received..: 01/27/04
Prep Date.....: 02/05/04 Analysis Date..: 02/16/04
Prep Batch #...: 4036303
Dilution Factor: 1 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4-Chloro-3-methylphenol	ND	330	ug/kg
2-Chlorophenol	ND	330	ug/kg
2,4-Dichlorophenol	ND	330	ug/kg
2,4-Dimethylphenol	ND	330	ug/kg
4,6-Dinitro-2-methylphenol	ND	1600	ug/kg
2,4-Dinitrophenol	ND	1600	ug/kg
2-Methylphenol	ND	330	ug/kg
3-Methylphenol & 4-Methylphenol	ND	660	ug/kg
2-Nitrophenol	ND	330	ug/kg
4-Nitrophenol	ND	1600	ug/kg
Pentachlorophenol	ND	1600	ug/kg
Phenol	ND	330	ug/kg
2,4,5-Trichlorophenol	ND	330	ug/kg
2,4,6-Trichlorophenol	ND	330	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	68	(29 - 90)
1,2-Dichlorobenzene-d4	60	(25 - 82)
2-Fluorobiphenyl	71	(39 - 93)
2-Fluorophenol	69	(21 - 94)
Nitrobenzene-d5	62	(32 - 85)
Phenol-d5	73	(36 - 91)
Terphenyl-d14	89	(19 - 182)
2,4,6-Tribromophenol	66	(10 - 122)

QC DATA ASSOCIATION SUMMARY

G4A270252

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8270C		4036303	4036094

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F84PK1AA Matrix.....: SOLID
MB Lot-Sample #: G4B050000-303

Prep Date.....: 02/05/04
Analysis Date..: 02/16/04 Prep Batch #...: 4036303
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	1600	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	1600	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
4-Nitrophenol	ND	1600	ug/kg	SW846 8270C
Pentachlorophenol	ND	1600	ug/kg	SW846 8270C
Phenol	ND	330	ug/kg	SW846 8270C
2,4,5-Trichlorophenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichlorophenol	ND	330	ug/kg	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	660	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	80	(29 - 90)
1,2-Dichlorobenzene-d4	81	(25 - 82)
2-Fluorobiphenyl	88	(39 - 93)
2-Fluorophenol	81	(21 - 94)
Nitrobenzene-d5	78	(32 - 85)
Phenol-d5	83	(36 - 91)
Terphenyl-d14	101	(19 - 182)
2,4,6-Tribromophenol	69	(10 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F84PK1AC Matrix.....: SOLID
LCS Lot-Sample#: G4B050000-303
Prep Date.....: 02/05/04 Analysis Date..: 02/16/04
Prep Batch #...: 4036303
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
4-Chloro-3-methylphenol	3330	**2850**	ug/kg	**86**	**SW846 8270C**
2-Chlorophenol	3330	**2500**	ug/kg	75	**SW846 8270C**
4-Nitrophenol	3330	**3100**	ug/kg	93	**SW846 8270C**
Pentachlorophenol	3330	**2370**	ug/kg	71	**SW846 8270C**
Phenol	3330	**2480**	ug/kg	75	**SW846 8270C**
Acenaphthene	3330	**2680**	ug/kg	80	**SW846 8270C**
1,4-Dichlorobenzene	3330	**2300**	ug/kg	69	**SW846 8270C**
2,4-Dinitrotoluene	3330	**2680**	ug/kg	80	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	3330	**2740**	ug/kg	82	**SW846 8270C**
Pyrene	3330	**3160**	ug/kg	95	**SW846 8270C**
1,2,4-Trichloro-benzene	3330	**2520**	ug/kg	76	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	79	(29 - 90)
1,2-Dichlorobenzene-d4	78	(25 - 82)
2-Fluorobiphenyl	85	(39 - 93)
2-Fluorophenol	84	(21 - 94)
Nitrobenzene-d5	77	(32 - 85)
Phenol-d5	81	(36 - 91)
Terphenyl-d14	97	(19 - 182)
2,4,6-Tribromophenol	81	(10 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F84PK1AC Matrix.....: SOLID
LCS Lot-Sample#: G4B050000-303
Prep Date.....: 02/05/04 Analysis Date..: 02/16/04
Prep Batch #...: 4036303
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
4-Chloro-3-methylphenol	**86**	**(50 - 112)**	**SW846 8270C**
2-Chlorophenol	**75**	**(43 - 95)**	**SW846 8270C**
4-Nitrophenol	**93**	**(30 - 126)**	**SW846 8270C**
Pentachlorophenol	**71**	**(35 - 98)**	**SW846 8270C**
Phenol	**75**	**(41 - 105)**	**SW846 8270C**
Acenaphthene	**80**	**(50 - 101)**	**SW846 8270C**
1,4-Dichlorobenzene	**69**	**(38 - 90)**	**SW846 8270C**
2,4-Dinitrotoluene	**80**	**(56 - 110)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**82**	**(33 - 103)**	**SW846 8270C**
Pyrene	**95**	**(42 - 125)**	**SW846 8270C**
1,2,4-Trichloro-benzene	**76**	**(43 - 93)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	79	(29 - 90)
1,2-Dichlorobenzene-d4	78	(25 - 82)
2-Fluorobiphenyl	85	(39 - 93)
2-Fluorophenol	84	(21 - 94)
Nitrobenzene-d5	77	(32 - 85)
Phenol-d5	81	(36 - 91)
Terphenyl-d14	97	(19 - 182)
2,4,6-Tribromophenol	81	(10 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252
MS Lot-Sample #: G4A280310-010
Date Sampled...: 01/23/04
Prep Date.....: 02/05/04
Prep Batch #...: 4036303
Dilution Factor: 2

Work Order #...: F8RK11AH-MS
F8RK11AJ-MSD
Date Received..: 01/27/04
Analysis Date..: 02/16/04

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Chloro-3-methylphenol	ND	6670	5340	ug/kg	80		SW846 8270C
	ND	6670	5060	ug/kg	76	5.5	SW846 8270C
2-Chlorophenol	ND	6670	4620	ug/kg	69		SW846 8270C
	ND	6670	4520	ug/kg	68	2.2	SW846 8270C
4-Nitrophenol	ND	6670	5600	ug/kg	84		SW846 8270C
	ND	6670	4960	ug/kg	74	12	SW846 8270C
Pentachlorophenol	ND	6670	4110	ug/kg	62		SW846 8270C
	ND	6670	3200	ug/kg	48 p	25	SW846 8270C
Phenol	ND	6670	4760	ug/kg	71		SW846 8270C
	ND	6670	4430	ug/kg	66	7.0	SW846 8270C
Acenaphthene	ND	6670	5110	ug/kg	77		SW846 8270C
	ND	6670	5090	ug/kg	76	0.33	SW846 8270C
1,4-Dichlorobenzene	ND	6670	4430	ug/kg	66		SW846 8270C
	ND	6670	4170	ug/kg	62	6.2	SW846 8270C
2,4-Dinitrotoluene	ND	6670	5820	ug/kg	87		SW846 8270C
	ND	6670	5500	ug/kg	83	5.5	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	6670	5230	ug/kg	78		SW846 8270C
	ND	6670	5360	ug/kg	80	2.5	SW846 8270C
Pyrene	ND	6670	5870	ug/kg	88		SW846 8270C
	ND	6670	5770	ug/kg	87	1.7	SW846 8270C
1,2,4-Trichloro-benzene	ND	6670	4660	ug/kg	70		SW846 8270C
	ND	6670	4370	ug/kg	66	6.5	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	73	(29 - 90)
	69	(29 - 90)
1,2-Dichlorobenzene-d4	72	(25 - 82)
	69	(25 - 82)
2-Fluorobiphenyl	80	(39 - 93)
	79	(39 - 93)
2-Fluorophenol	79	(21 - 94)
	70	(21 - 94)
Nitrobenzene-d5	70	(32 - 85)
	65	(32 - 85)

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F8RK11AH-MS Matrix.....: SOLID
MS Lot-Sample #: G4A280310-010 F8RK11AJ-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Phenol-d5	74	(36 - 91)
	70	(36 - 91)
Terphenyl-d14	89	(19 - 182)
	89	(19 - 182)
2,4,6-Tribromophenol	79	(10 - 122)
	75	(10 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F8RK11AH-MS Matrix.....: SOLID
MS Lot-Sample #: G4A280310-010 F8RK11AJ-MSD
Date Sampled...: 01/23/04 Date Received..: 01/27/04
Prep Date.....: 02/05/04 Analysis Date..: 02/16/04
Prep Batch #...: 4036303
Dilution Factor: 2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
4-Chloro-3-methylphenol	80	(50 - 112)			SW846 8270C
	76	(50 - 112)	5.5	(0-32)	SW846 8270C
2-Chlorophenol	69	(43 - 95)			SW846 8270C
	68	(43 - 95)	2.2	(0-20)	SW846 8270C
4-Nitrophenol	84	(30 - 126)			SW846 8270C
	74	(30 - 126)	12	(0-30)	SW846 8270C
Pentachlorophenol	62	(35 - 98)			SW846 8270C
	48 p	(35 - 98)	25	(0-20)	SW846 8270C
Phenol	71	(41 - 105)			SW846 8270C
	66	(41 - 105)	7.0	(0-20)	SW846 8270C
Acenaphthene	77	(50 - 101)			SW846 8270C
	76	(50 - 101)	0.33	(0-20)	SW846 8270C
1,4-Dichlorobenzene	66	(38 - 90)			SW846 8270C
	62	(38 - 90)	6.2	(0-51)	SW846 8270C
2,4-Dinitrotoluene	87	(56 - 110)			SW846 8270C
	83	(56 - 110)	5.5	(0-27)	SW846 8270C
N-Nitrosodi-n-propyl-amine	78	(33 - 103)			SW846 8270C
	80	(33 - 103)	2.5	(0-68)	SW846 8270C
Pyrene	88	(42 - 125)			SW846 8270C
	87	(42 - 125)	1.7	(0-34)	SW846 8270C
1,2,4-Trichloro-benzene	70	(43 - 93)			SW846 8270C
	66	(43 - 93)	6.5	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Chlorophenol-d4	73	(29 - 90)
	69	(29 - 90)
1,2-Dichlorobenzene-d4	72	(25 - 82)
	69	(25 - 82)
2-Fluorobiphenyl	80	(39 - 93)
	79	(39 - 93)
2-Fluorophenol	79	(21 - 94)
	70	(21 - 94)
Nitrobenzene-d5	70	(32 - 85)
	65	(32 - 85)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: G4A270252 Work Order #...: F8RK11AH-MS Matrix.....: SOLID
MS Lot-Sample #: G4A280310-010 F8RK11AJ-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Phenol-d5	74	(36 - 91)
	70	(36 - 91)
Terphenyl-d14	89	(19 - 182)
	89	(19 - 182)
2,4,6-Tribromophenol	79	(10 - 122)
	75	(10 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

NORTH COAST LABORATORIES LTD.

5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

P. ______ ______

LABORATORY NUMBER: 0401437

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): [signature]

PROJECT INFORMATION

Project Number: 002151
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	Analysis:			
					[illegible] 8270	TCP/ICP CAM PLT	8260 LIST 9	CAM 17 METALS
	MW-8 DRUM 1	1-22-04	930	S	X	X	X	X
	MW 8 DRUM 2	↓	1015	↓	X	X	X	X
	MW-7 DRUM 1	↓	1200	↓	X	X	X	X

PRESERVATIVE / CONTAINER

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
[signature] Josh Tyler	1645 1-22-04	A. Thompson	1/22/04 1645

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

COMPOSITE ALL SAMPLES INTO ONE FOR ANALYSIS

Cooler temp = 9.4°C

SAMPLE DISPOSAL
☑ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

RECD FEB 6 2004

NORTH COAST LABORATORIES LTD.

February 04, 2004

SHN Consulting Engineers and Geologists
812 West Wabash Avenue
Eureka, CA 95501

Order No.: 0401433
Invoice No.: 39887
PO No.:
ELAP No. 1247-Expires July 2004

Attn: Frans Lowman

RE: 003154, Former Simpson Reman

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	MW-8-DRUM-1/MW-8-DRUM 2/MW-7-DRUM
01B	MW-8-DRUM-1/MW-8-DRUM 2/MW-7-DRUM

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s)

QA Unit

Jesse G. Chaney, Jr.
Laboratory Director

5680 West End Road • Arcata California 95521-9202 • 707-822-4649 • FAX 707-822-6831

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CLIENT: SHN Consulting Engineers and Geologists
Project: 003154, Former Simpson Reman
Lab Order: 0401433

CASE NARRATIVE

EPA 8260B:
The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries were above the upper acceptance limits for several analytes. These recoveries indicate that the sample results may be erroneously high. There were no detectable levels of the analytes in the sample; therefore, the data were accepted.

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Date: 04-Feb-04
WorkOrder: 0401433

ANALYTICAL REPORT

Client Sample ID: MW-8-DRUM-1/MW-8-DRUM 2/MW-7- **Received:** 1/22/04 **Collected:** 1/22/04 0:00
Lab ID: 0401433-01A

Test Name: ICAP Metals **Reference:** EPA 6010B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Barium	120	1.0	µg/g	1.0	1/26/04	1/29/04
Beryllium	ND	0.50	µg/g	1.0	1/26/04	1/29/04
Cadmium	ND	2.0	µg/g	1.0	1/26/04	1/29/04
Chromium	63	2.0	µg/g	1.0	1/26/04	1/29/04
Cobalt	13	2.0	µg/g	1.0	1/26/04	1/29/04
Copper	26	2.0	µg/g	1.0	1/26/04	1/29/04
Lead	ND	10	µg/g	1.0	1/26/04	1/29/04
Molybdenum	ND	3.0	µg/g	1.0	1/26/04	1/29/04
Nickel	75	5.0	µg/g	1.0	1/26/04	1/29/04
Silver	ND	2.0	µg/g	1.0	1/26/04	1/29/04
Vanadium	38	2.0	µg/g	1.0	1/26/04	1/29/04
Zinc	57	5.0	µg/g	1.0	1/26/04	1/29/04

Test Name: Mercury **Reference:** EPA 7471A

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Mercury	0.14	0.10	µg/g	1.0	1/29/04	2/2/04

Test Name: Penta- and Tetrachlorophenol **Reference:** Canadian Pulp Report Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Tetrachlorophenol	ND	1.0	µg/g	1.0	2/2/04	2/3/04
Pentachlorophenol	ND	1.0	µg/g	1.0	2/2/04	2/3/04
Surrogate: Dibromophenol	85.5	73.7-124	% Rec	1.0	2/2/04	2/3/04

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Date: 04-Feb-04
WorkOrder: 0401433

ANALYTICAL REPORT

Client Sample ID: MW-8-DRUM-1/MW-8-DRUM 2/MW-7- **Received:** 1/22/04 **Collected:** 1/22/04 0:00
Lab ID: 0401433-01B

Test Name: EPA 8260 **Reference:** EPA 5035/8260B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chloromethane	ND	0.040	µg/g	1.0	2/2/04	2/2/04
Vinyl chloride	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Bromomethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Chloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Trichlorofluoromethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,1-Dichloroethene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Methylene chloride	ND	0.040	µg/g	1.0	2/2/04	2/2/04
trans-1,2-Dichloroethene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,1-Dichloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
cis-1,2-Dichloroethene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Chloroform	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Carbon Tetrachloride	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,1,1-Trichloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Benzene	ND	0.0050	µg/g	1.0	2/2/04	2/2/04
1,2-Dichloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Trichloroethene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,2-Dichloropropane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Bromodichloromethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
cis-1,3-Dichloropropene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Toluene	ND	0.0050	µg/g	1.0	2/2/04	2/2/04
Tetrachloroethene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
trans-1,3-Dichloropropene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,1,2-Trichloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Dibromochloromethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Chlorobenzene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Ethylbenzene	0.12	0.0050	µg/g	1.0	2/2/04	2/2/04
m,p-Xylene	0.27	0.0050	µg/g	1.0	2/2/04	2/2/04
o-Xylene	0.011	0.0050	µg/g	1.0	2/2/04	2/2/04
Bromoform	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,1,2,2-Tetrachloroethane	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,3-Dichlorobenzene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,4-Dichlorobenzene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
1,2-Dichlorobenzene	ND	0.020	µg/g	1.0	2/2/04	2/2/04
Surrogate: 1,2-Dichloroethane-d4	119	80-120	% Rec	1.0	2/2/04	2/2/04
Surrogate: 1,4-Dichlorobenzene-d4	85.9	80-120	% Rec	1.0	2/2/04	2/2/04
Surrogate: Dibromofluoromethane	106	80-120	% Rec	1.0	2/2/04	2/2/04
Surrogate: Toluene-d8	100	80-120	% Rec	1.0	2/2/04	2/2/04

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North Coast Laboratories, Ltd.

Date: 04-Feb-04

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Method Blank

Sample ID **MB-10712P** Batch ID: **10712** Test Code: **6ICPS** Units: **µg/g** Analysis Date **1/29/04 3:17:00 PM** Prep Date **1/26/04**

Client ID: Run ID: **INICP1_040129A** SeqNo: **399076**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Beryllium	ND	0.50									
Cadmium	ND	2.0									
Chromium	ND	2.0									
Cobalt	ND	2.0									
Copper	ND	2.0									
Lead	ND	10									
Molybdenum	ND	3.0									
Nickel	ND	5.0									
Silver	ND	2.0									
Vanadium	ND	2.0									
Zinc	ND	5.0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Method Blank

Sample ID **MB-10759** Batch ID: **10759** Test Code: **8260S** Units: **µg/g** Analysis Date **2/2/04 8:12:00 AM** Prep Date **2/2/04**
Client ID: Run ID: **ORGCMS2_040202A** SeqNo: **399756**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	ND	0.040									
Vinyl chloride	ND	0.020									
Bromomethane	ND	0.020									
Chloroethane	ND	0.020									
Trichlorofluoromethane	ND	0.020									
1,1-Dichloroethene	ND	0.020									
Methylene chloride	ND	0.040									
trans-1,2-Dichloroethene	ND	0.020									
1,1-Dichloroethane	ND	0.020									
cis-1,2-Dichloroethene	ND	0.020									
Chloroform	ND	0.020									
Carbon Tetrachloride	ND	0.020									
1,1,1-Trichloroethane	ND	0.020									
Benzene	ND	0.0050									
1,2-Dichloroethane	ND	0.020									
Trichloroethene	ND	0.020									
1,2-Dichloropropane	ND	0.020									
Bromodichloromethane	ND	0.020									
cis-1,3-Dichloropropene	ND	0.020									
Toluene	ND	0.0050									
Tetrachloroethene	ND	0.020									
trans-1,3-Dichloropropene	ND	0.020									
1,1,2-Trichloroethane	ND	0.020									
Dibromochloromethane	ND	0.020									
Chlorobenzene	ND	0.020									
Ethylbenzene	ND	0.0050									
m,p-Xylene	ND	0.0050									
o-Xylene	ND	0.0050									
Bromoform	ND	0.020									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Method Blank

1,1,2,2-Tetrachloroethane	ND	0.020						
1,3-Dichlorobenzene	ND	0.020						
1,4-Dichlorobenzene	ND	0.020						
1,2-Dichlorobenzene	ND	0.020						
1,2-Dichloroethane-d4	1.16	0.0020	1.00	0	115%	80	120	0
1,4-Dichlorobenzene-d4	0.930	0.0020	1.00	0	93.0%	80	120	0
Dibromofluoromethane	1.03	0.0020	1.00	0	103%	80	120	0
Toluene-d8	1.02	0.0020	1.00	0	102%	80	120	0

Sample ID **MB-10734** Batch ID: **10734** Test Code: **MERCS** Units: **µg/g** Analysis Date **2/2/04** Prep Date **1/29/04**
Client ID: Run ID: **CVAA1_040202A** SeqNo: **399613**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.03000	0.10									J

Sample ID **MB-10753** Batch ID: **10753** Test Code: **PCPTS** Units: **µg/g** Analysis Date **2/3/04 7:24:00 PM** Prep Date **2/2/04**
Client ID: Run ID: **ORGC4_040203A** SeqNo: **399952**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol	ND	1.0									
Pentachlorophenol	ND	1.0									
Dibromophenol	4.36	1.0	5.00	0	87.1%	74	124	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 04-Feb-04

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCS-10712P** Batch ID: **10712** Test Code: **6ICPS** Units: **µg/g** Analysis Date **1/29/04 3:19:00 PM** Prep Date **1/26/04**
Client ID: Run ID: **INICP1_040129A** SeqNo: **399077**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	97.74	1.0	100	0	97.7%	85	115	0			
Beryllium	100.6	0.50	100	0	101%	85	115	0			
Cadmium	103.0	2.0	100	0	103%	85	115	0			
Chromium	101.5	2.0	100	0	101%	85	115	0			
Cobalt	98.57	2.0	100	0	98.6%	85	115	0			
Copper	97.41	2.0	100	0	97.4%	85	115	0			
Lead	94.66	10	100	0	94.7%	85	115	0			
Molybdenum	98.73	3.0	100	0	98.7%	85	115	0			
Nickel	96.14	5.0	100	0	96.1%	85	115	0			
Silver	9.720	2.0	10.0	0	97.2%	85	115	0			
Vanadium	98.40	2.0	100	0	98.4%	85	115	0			
Zinc	101.2	5.0	100	0	101%	85	115	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCSO-10759** Batch ID: **10759** Test Code: **8260S** Units: **µg/g** Analysis Date **2/2/04 5:15:00 AM** Prep Date **2/2/04**
Client ID: Run ID: **ORGCMS2_040202A** SeqNo: **399754**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.3506	0.040	0.400	0	87.7%	70	130	0			
Vinyl chloride	0.5042	0.020	0.400	0	126%	70	130	0			
Bromomethane	0.9107	0.020	0.400	0	228%	70	130	0			S
Chloroethane	0.5184	0.020	0.400	0	130%	70	130	0			
Trichlorofluoromethane	0.5619	0.020	0.400	0	140%	70	130	0			S
1,1-Dichloroethene	0.6487	0.020	0.400	0	162%	70	130	0			S
Methylene chloride	0.4594	0.040	0.400	0	115%	70	130	0			
trans-1,2-Dichloroethene	0.4443	0.020	0.400	0	111%	70	130	0			
1,1-Dichloroethane	0.4444	0.020	0.400	0	111%	70	130	0			
cis-1,2-Dichloroethene	0.4488	0.020	0.400	0	112%	70	130	0			
Chloroform	0.4711	0.020	0.400	0	118%	70	130	0			
Carbon Tetrachloride	0.4511	0.020	0.400	0	113%	70	130	0			
1,1,1-Trichloroethane	0.4645	0.020	0.400	0	116%	70	130	0			
Benzene	0.4540	0.0050	0.400	0	114%	70	130	0			
1,2-Dichloroethane	0.5098	0.020	0.400	0	127%	70	130	0			
Trichloroethene	0.4345	0.020	0.400	0	109%	70	130	0			
1,2-Dichloropropane	0.4353	0.020	0.400	0	109%	70	130	0			
Bromodichloromethane	0.4498	0.020	0.400	0	112%	70	130	0			
cis-1,3-Dichloropropene	0.4186	0.020	0.400	0	105%	70	130	0			
Toluene	0.4471	0.0050	0.400	0	112%	70	130	0			
Tetrachloroethene	0.3871	0.020	0.400	0	96.8%	70	130	0			
trans-1,3-Dichloropropene	0.4304	0.020	0.400	0	108%	70	130	0			
1,1,2-Trichloroethane	0.4740	0.020	0.400	0	118%	70	130	0			
Dibromochloromethane	0.4352	0.020	0.400	0	109%	70	130	0			
Chlorobenzene	0.4381	0.020	0.400	0	110%	70	130	0			
Ethylbenzene	0.4667	0.0050	0.400	0	117%	70	130	0			
m,p-Xylene	0.9683	0.0050	0.800	0	121%	70	130	0			
o-Xylene	0.4292	0.0050	0.400	0	107%	70	130	0			
Bromoform	0.3780	0.020	0.400	0	94.5%	70	130	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike

1,1,2,2-Tetrachloroethane	0.4123	0.020	0.400	0	103%	70	130	0
1,3-Dichlorobenzene	0.3996	0.020	0.400	0	99.9%	70	130	0
1,4-Dichlorobenzene	0.4115	0.020	0.400	0	103%	70	130	0
1,2-Dichlorobenzene	0.3776	0.020	0.400	0	94.4%	70	130	0
1,2-Dichloroethane-d4	1.18	0.0020	1.00	0	118%	80	120	0
1,4-Dichlorobenzene-d4	0.953	0.0020	1.00	0	95.3%	80	120	0
Dibromofluoromethane	1.05	0.0020	1.00	0	105%	80	120	0
Toluene-d8	1.04	0.0020	1.00	0	104%	80	120	0

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID **LCSDO-10759** Batch ID: **10759** Test Code: **8260S** Units: **µg/g** Analysis Date **2/2/04 5:44:00 AM** Prep Date **2/2/04**
Client ID: Run ID: **ORGCMS2_040202A** SeqNo: **399755**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.3859	0.040	0.400	0	96.5%	70	130	0.351	9.58%	20	
Vinyl chloride	0.5610	0.020	0.400	0	140%	70	130	0.504	10.7%	20	S
Bromomethane	1.026	0.020	0.400	0	256%	70	130	0.911	11.9%	20	S
Chloroethane	0.5684	0.020	0.400	0	142%	70	130	0.518	9.19%	20	S
Trichlorofluoromethane	0.6318	0.020	0.400	0	158%	70	130	0.562	11.7%	20	S
1,1-Dichloroethene	0.6577	0.020	0.400	0	164%	70	130	0.649	1.38%	20	S
Methylene chloride	0.4652	0.040	0.400	0	116%	70	130	0.459	1.26%	20	
trans-1,2-Dichloroethene	0.4510	0.020	0.400	0	113%	70	130	0.444	1.51%	20	
1,1-Dichloroethane	0.4504	0.020	0.400	0	113%	70	130	0.444	1.34%	20	
cis-1,2-Dichloroethene	0.4183	0.020	0.400	0	105%	70	130	0.449	7.03%	20	
Chloroform	0.4832	0.020	0.400	0	121%	70	130	0.471	2.54%	20	
Carbon Tetrachloride	0.4639	0.020	0.400	0	116%	70	130	0.451	2.78%	20	
1,1,1-Trichloroethane	0.4701	0.020	0.400	0	118%	70	130	0.464	1.20%	20	
Benzene	0.4682	0.0050	0.400	0	117%	70	130	0.454	3.07%	20	
1,2-Dichloroethane	0.5080	0.020	0.400	0	127%	70	130	0.510	0.347%	20	
Trichloroethene	0.4487	0.020	0.400	0	112%	70	130	0.434	3.20%	20	
1,2-Dichloropropane	0.4391	0.020	0.400	0	110%	70	130	0.435	0.862%	20	
Bromodichloromethane	0.4479	0.020	0.400	0	112%	70	130	0.450	0.415%	20	
cis-1,3-Dichloropropene	0.4164	0.020	0.400	0	104%	70	130	0.419	0.528%	20	
Toluene	0.4448	0.0050	0.400	0	111%	70	130	0.447	0.511%	20	
Tetrachloroethene	0.3975	0.020	0.400	0	99.4%	70	130	0.387	2.66%	20	
trans-1,3-Dichloropropene	0.4123	0.020	0.400	0	103%	70	130	0.430	4.30%	20	
1,1,2-Trichloroethane	0.4510	0.020	0.400	0	113%	70	130	0.474	4.98%	20	
Dibromochloromethane	0.4209	0.020	0.400	0	105%	70	130	0.435	3.33%	20	
Chlorobenzene	0.4452	0.020	0.400	0	111%	70	130	0.438	1.61%	20	
Ethylbenzene	0.4682	0.0050	0.400	0	117%	70	130	0.467	0.314%	20	
m,p-Xylene	0.9871	0.0050	0.800	0	123%	70	130	0.968	1.92%	20	
o-Xylene	0.4435	0.0050	0.400	0	111%	70	130	0.429	3.29%	20	
Bromoform	0.3596	0.020	0.400	0	89.9%	70	130	0.378	4.99%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

1,1,2,2-Tetrachloroethane	0.4182	0.020	0.400	0	105%	70	130	0.412	1.42%	20
1,3-Dichlorobenzene	0.4077	0.020	0.400	0	102%	70	130	0.400	2.02%	20
1,4-Dichlorobenzene	0.4250	0.020	0.400	0	106%	70	130	0.412	3.22%	20
1,2-Dichlorobenzene	0.3905	0.020	0.400	0	97.6%	70	130	0.378	3.35%	20
1,2-Dichloroethane-d4	1.14	0.0020	1.00	0	114%	80	120	1.18	3.50%	20
1,4-Dichlorobenzene-d4	0.960	0.0020	1.00	0	96.0%	80	120	0.953	0.717%	20
Dibromofluoromethane	1.04	0.0020	1.00	0	104%	80	120	1.05	1.08%	20
Toluene-d8	1.03	0.0020	1.00	0	103%	80	120	1.04	0.539%	20

Sample ID **LCS-10734** Batch ID: **10734** Test Code: **MERCS** Units: **µg/g** Analysis Date **2/2/04** Prep Date **1/29/04**
Client ID: Run ID: **CVAA1_040202A** SeqNo: **399614**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.4400	0.10	0.400	0.0300	102%	85	115	0			

Sample ID **LCSD-10734** Batch ID: **10734** Test Code: **MERCS** Units: **µg/g** Analysis Date **2/2/04** Prep Date **1/29/04**
Client ID: Run ID: **CVAA1_040202A** SeqNo: **399615**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.4400	0.10	0.400	0.0300	102%	85	115	0.440	0%	20	

Sample ID **LCS-10753** Batch ID: **10753** Test Code: **PCPTS** Units: **µg/g** Analysis Date **2/3/04 7:46:00 PM** Prep Date **2/2/04**
Client ID: Run ID: **ORGC4_040203A** SeqNo: **399953**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol	4.257	1.0	5.00	0	85.1%	67	131	0			
Pentachlorophenol	4.347	1.0	5.00	0	86.9%	65	140	0			
Dibromophenol	4.36	1.0	5.00	0	87.3%	74	124	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: SHN Consulting Engineers and Geologists
Work Order: 0401433
Project: 003154, Former Simpson Reman

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID **LCSD-10753** Batch ID: **10753** Test Code: **PCPTS** Units: **µg/g** Analysis Date **2/3/04 8:08:05 PM** Prep Date **2/2/04**
Client ID: Run ID: **ORGC4_040203A** SeqNo: **399954**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol	4.291	1.0	5.00	0	85.8%	67	131	4.26	0.799%	15	
Pentachlorophenol	4.484	1.0	5.00	0	89.7%	65	140	4.35	3.11%	15	
Dibromophenol	4.40	1.0	5.00	0	88.0%	74	124	4.36	0.831%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

DRUM

P. 1 1

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

LABORATORY NUMBER: 0401433

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): R Ruben

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 003154
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS: PHENOLS - 8270	TCP/TCP ON PULP	8260 LIST 9	CAM 17 METALS
	MW-8-DRUM 1	1-22-04	930	S			X	X	X	X
	MW-8-DRUM 2	↓	1015	↓						
	MW-7-DRUM 1	↓	1200	↓						

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

COMPOSITE ALL SAMPLES INTO ONE FOR ANALYSIS

Cooler temp = 9.4°C

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Josh Tyler	1640 1-22-04	A. Thompson	1-22-04 1640

SAMPLE DISPOSAL
☑ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

RECD FEB 13 2004

ANALYTICAL REPORT

Northcoast Laboratories
5680 West End Road
Arcata, CA 95521

Attn: Loretta Tomlin
Phone: (707) 822-4649
Fax: (707) 822-6831
Date Received 01/27/04

Job#:

Metals by ICPMS
EPA Method SW6020

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**0401436-1A/MW-8-Drum1/MW-8-Drum2/MW-7-Drum1 Comp.**					
Lab ID :	NOC04012741-01A	Arsenic	6,100	1,000 µg/Kg	01/22/04	02/02/04
		Selenium	ND	1,000 µg/Kg	01/22/04	02/02/04
		Antimony	ND	1,000 µg/Kg	01/22/04	02/02/04
		Thallium	ND	1,000 µg/Kg	01/22/04	02/02/04

Reported in micrograms per kilogram, per client request.

.D = Not Detected

R Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Wichita, KS • (316) 722-5890 / info@alpha-analytical.com

2/4/04
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date: *06-Feb-04*

QC Summary Report

Work Order: 04012741

Method Blank

Type **MBLK** Test Code: **EPA Method SW6020**

File ID: **020204.B\059A_ICB.D** Batch ID: **9315** Analysis Date: **02/02/2004 17:37**

Sample ID: **MB-9315** Units : **µg/Kg** Run ID: **ICP/MS_040202B** Prep Date: **02/02/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Arsenic	ND	1000								
Selenium	ND	1000								
Antimony	ND	1000								
Thallium	ND	1000								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW6020**

File ID: **020204.B\060A_LCS.D** Batch ID: **9315** Analysis Date: **02/02/2004 17:42**

Sample ID: **LCS-9315** Units : **µg/Kg** Run ID: **ICP/MS_040202B** Prep Date: **02/02/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Arsenic	26400	1000	25000		106	85	115			
Selenium	26100	1000	25000		104	85	115			
Antimony	26700	1000	25000		107	85	115			
Thallium	23300	1000	25000		93	85	115			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per kilogram, per client request.

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : NOC04012741

Report Due By : 5:00 PM On : 05-Feb-04

Client:
Northcoast Laboratories
5680 West End Road

Arcata, CA 95521

Loretta Tomlin
TEL : (707) 822-4649
FAX : (707) 822-6831

EDD Required : **No**

Job :
PO :

Sampled by : Client

Report Attention : Loretta Tomlin
CC Report :

Client's COC # : none

Cooler Temp : 4 °C **27-Jan-04**

QC Level : 3 = Final Rpt, MBLK, LCS, MS/MSD

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles ORG	SUB	TAT	PWS #	Requested Tests METALS_SO			Sample Remarks
NOC04012741-01A	0401436-1A/MW-8-Drum1/MW-8-Drum2/MW-7-Drum1 Comp.	SO	01/22/04 00:00	1	0	7		As,Sb,Se,Tl			No sampling time provided.

Comments: No custody seal. Frozen ice. CA sample. Please include QC data. :

	Signature	Print Name	Company	Date/Time
Received by:	D.S.Baker	D.S.Baker	Alpha Analytical, Inc.	1/27/04 1045

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NORTH COAST LABORATORIES LTD.

Sub-Contract
Chain of Custody Record

Date Shipped: 1/26/04 **Carrier:** ups

Air Bill #: _____ **Cooler #:** _____

Subcontractor: Alpha Analytical - Nevada
255 Glendale Ave, #21
Sparks, NV 89431-5778

Phone: 702-355-1044
Attention Line: Sample Receiving

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
Attn: Loretta Tomlin
(707) 822-4649

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
	1/26/04 1500	DSBaker	1/27/04 1045

Analysis Request NOC04012741

NCL Sample #:	Sample ID:	Date Sampled:	Analysis / Matrix:
0401436-1A	~~MW-8-DRUM 1/MW-8-DRUM~~	1/22/04	As, Sb, Se, Tl -01

MW-8-DRUM 1/MW-8-DRUM 2/MW-7-DRUM 1 COMPOSITE

Special Instructions: Please include QC Data.

Date Due: 2/5/04 Rush Charges Authorized: NO Preservative: NONE

Return Chain of Custody to NCL

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

P. 1 c 1

LABORATORY NUMBER: 0401436

Attention: FRANS LOWMAN
Results & Invoice to: SHN
Address: 812 West Wabash Avenue
Eureka, CA 95501
Phone: 441-8855
Copies of Report to:
Sampler (Sign & Print): R Ruiln

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

PROJECT INFORMATION
Project Number: 003154
Project Name: FORMER SIMPSON REMAN
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS: PHENOLS - 8270	ANALYSIS: TCP/TCP GW PULP	ANALYSIS: 8260 LIST 9	ANALYSIS: CAM 17 METALS
	MW-8-DRUM 1	1-22-04	930	S			X	X	X	X
	MW-8 DRUM 2	↓	1015	↓			X	X	X	X
	MW-7 DRUM 1	↓	1200	↓			X	X	X	X

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS
COMPOSITE ALL SAMPLES INTO ONE FOR ANALYSIS

Cooler temp = 9.4°C

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Josh Tyler	1645 1-22-04	K. Thompson	1/22/04

SAMPLE DISPOSAL
☑ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Attachment 4

2004 Monitoring Data

Table 4-1
Historic Groundwater Elevations
Former Simpson Remanufacturing Facility, Arcata, California

Sample Location	Sampling Date	Top of Casing Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[3]
MW-1	2/5/2004	20.69	3.13	17.56
	5/19/2004		4.37	16.32
	8/30/2004		8.59	12.10
	11/9/2004		8.93	11.76
MW-2	2/5/2004	22.10	4.53	17.57
	5/19/2004		5.80	16.30
	8/30/2004		9.96	12.14
	11/9/2004		10.36	11.74
MW-3	2/5/2004	22.85	5.04	17.81
	5/19/2004		6.94	15.91
	8/30/2004		11.40	11.45
	11/9/2004		12.14	10.71
MW-4	2/5/2004	22.48	4.57	17.91
	5/19/2004		6.71	15.77
	8/30/2004		11.16	11.32
	11/9/2004		11.96	10.52
MW-5	2/5/2004	21.82	4.20	17.62
	5/19/2004		5.47	16.35
	8/30/2004		9.73	12.09
	11/9/2004		10.02	11.80
MW-6	2/5/2004	23.03	5.13	17.90
	5/19/2004		7.09	15.94
	8/30/2004		11.59	11.44
	11/9/2004		12.31	10.72
MW-7	2/5/2004	21.48	3.84	17.64
	5/19/2004		5.19	16.29
	8/30/2004		9.42	12.06
	11/9/2004		9.81	11.67
MW-8	2/5/2004	21.56	3.94	17.62
	5/19/2004		5.24	16.32
	8/30/2004		9.47	12.09
	11/9/2004		9.79	11.77

1. Relative to National Geodetic Vertidal Datum (1929)
2. Below top of casing

Table 4-2
Historic Groundwater Analytical Results
Former Simpson Remanufacturing Facility, Arcata, California
(in ug/L)[1]

Sample Location	Sample Date	Phenols[2]	PCP[3]	TCP[3]	trans-1,2-DCE[4]	cis-1,2-DCE	Vinyl Chloride	Benzene	Total Xylenes
MW-1	2/5/2004	ND[5]	<0.30[6]	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50
	5/19/2004	NS[7]	NS	NS	NS	NS	NS	NS	NS
	8/30/2004	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2004	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	2/5/2004	ND	<0.30	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50
	5/19/2004	NS	NS	NS	NS	NS	NS	NS	NS
	8/30/2004	ND	**0.58**	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50
	11/9/2004	ND	<0.30	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0
MW-3	2/5/2004	ND	<0.30	<1.0	<1.0	**14**	**1.6**	<0.50	<0.50
	5/19/2004	ND	<0.30	<1.0	<1.0	**19**	**2.4**	**0.70**	<0.50
	8/30/2004	ND	<0.30	<1.0	<1.0	**30**	**2.8**	**0.66**	<0.50
	11/9/2004	ND	<0.30	<1.0	**2.0**	**24**	**1.7**	**0.82**	<1.0
MW-4	2/5/2004	ND	<0.30	<1.0	<1.0	**1.5**	<1.0	<0.50	<0.50
	5/19/2004	NS	NS	NS	NS	NS	NS	NS	NS
	8/30/2004	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2004	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	2/5/2004	ND	<0.30	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50
	5/19/2004	NS	NS	NS	NS	NS	NS	NS	NS
	8/30/2004	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2004	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	2/5/2004	ND	<0.30	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50
	5/19/2004	NS	NS	NS	NS	NS	NS	NS	NS
	8/30/2004	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2004	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	2/5/2004	ND	<0.30	<1.0	<1.0	**4.2**	**77**	**2.60**	<0.50
	5/19/2004	ND	<0.30	<1.0	<1.0	**3.8**	**64**	**2.80**	<0.50
	8/30/2004	ND	<0.30	<1.0	<1.0	**1.7**	**29**	**2.50**	<0.50
	11/9/2004	ND	<0.30	<1.0	<1.0	**1.2**	**8.9**	**2.50**	<1.0
MW-8	2/5/2004	ND	<0.30	<1.0	<1.0	<1.0	**6.6**	<0.50	**0.70**
	5/19/2004	ND	<0.30	<1.0	<1.0	<1.0	**3.4**	<0.50	**0.99**
	8/30/2004	ND	**0.52**	<1.0	<1.0	<1.0	**2.4**	<0.50	<0.50
	11/9/2004	ND	<0.30	<1.0	<1.0	<1.0	**2.6**	<0.50	<1.0

1. ug/L: micrograms per Liter
2. Phenols analyzed in general accordance with EPA Method No. 8270.
3. Pentachlorophenol (PCP) and tetrachlorophenol (TCP) analyzed in general accordance with the Canadian Pulp Report Method.
4. DCE: Dichloroethene
5. Not detected (ND), see laboratory analytical reports for individual constituents and detection limits.
6. <: denotes result is "less than" laboratory detection limit.
7. NS: Not Sampled

Table 4-3
Historic Biodegradation Indicator Measurement Results
Former Simpson Remanufacturing Facility, Arcata, California

Sample Location	Sample Date	DO [1] (ppm) [2]	DCO_2 [3] (ppm)	ORP [4] (mV) [5]
MW-1	2/5/2004	1.34	100	301
	5/19/2004	NM[6]	NM	NM
	8/30/2004	NM	NM	NM
	11/9/2004	NM	NM	NM
MW-2	2/5/2004	9.89	25	296
	8/30/2004	0.48	40	2
	11/9/2004	0.82	30	105
MW-3	2/5/2004	5.98	30	-116
	5/19/2004	0.74	35	130
	8/30/2004	0.43	60	-32
	11/9/2004	0.69	35	66
MW-4	2/5/2004	5.63	50	298
	5/19/2004	NM	NM	NM
	8/30/2004	NM	NM	NM
	11/9/2004	NM	NM	NM
MW-5	2/5/2004	1.37	80	323
	5/19/2004	NM	NM	NM
	8/30/2004	NM	NM	NM
	11/9/2004	NM	NM	NM
MW-6	2/5/2004	3.36	70	332
	5/19/2004	NM	NM	NM
	8/30/2004	NM	NM	NM
	11/9/2004	NM	NM	NM
MW-7	2/5/2004	1.29	120	245
	5/19/2004	0.51	90	34
	8/30/2004	0.45	100	49
	11/9/2004	0.7	110	94
MW-8	2/5/2004	1.33	120	219
	5/19/2004	0.78	600	-31
	8/30/2004	0.52	400	43
	11/9/2004	0.72	350	30

1. DO: Dissolved Oxygen; field measured using portable instrumentation
2. ppm: parts per million
3. DCO_2: Dissolved Carbon Dioxide; field measured using portable instrumentation
4. ORP: Oxidation-Reduction Potential
5. mV: millivolts
6. NM: Not Measured

Appendix B

Groundwater Velocity Calculations

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SHEET NO. 1 OF 1
CALCULATED BY F. Lowman DATE 3/2/05
CHECKED BY DATE
SCALE

ORIGINAL

Groundwater Velocity Calcs

$$V = \frac{k \frac{dh}{dL}}{n}$$

V = Groundwater Velocity
k = Hydraulic Conductivity
$\frac{dh}{dL}$ = Groundwater Gradient
n = porosity

A k value of 1×10^{-3} cm/sec was used

A $\frac{dh}{dL}$ value of 0.008 was used. This is the highest calculated hydraulic gradient measured in 2004 at the site.

A n value of 0.3 was used.

Both the k and n values were estimated using values from "Applied Hydrogeology" By C.W. Fetter, 1980.

$$V = \frac{1 \times 10^{-3}(0.008)}{0.3} = 2.67 \times 10^{-5} \text{ cm/sec.}$$
$$\simeq 27.6 \text{ ft/yr.}$$

Using a travel time of 15 years (1989 – 2004) and a retardation coefficient of 2.4 (coefficient for DCE)

$$\frac{27.6 \text{ ft/year} * 15 \text{ yrs}}{2.4} \simeq 170' \text{ feet}$$

= Estimated distance 1,2-DCE would travel from source area in 15 years.

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