



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

January 15, 2009

Meg Pinza  
Newfields Northwest  
4729 NE View Drive  
Port Gamble, WA 98364

**Client Project: Newfields Douglas Harbor, 1414-001-860**  
**ARI ID: OB99**

Dear Ms. Pinza:

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final results for the project referenced above. Analytical Resources, Inc. (ARI) accepted fourteen sediment samples in good condition on December 2, 2008. For further details regarding sample receipt please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for TOC and Grainsize, as requested on the COC. Please note that details regarding the Grainsize analysis can be found in a laboratory-specific Case Narrative at the end of this report.

There were no anomalies associated with the analyses of these samples.

An electronic copy of this report and all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Respectfully,  
ANALYTICAL RESOURCES, INC.

Cheronne Oreiro  
Project Manager  
-For-  
Susan Dunnihoo  
Director, Client Services  
sue@arilabs.com  
206-695-6207

Enclosures

cc: eFile OB99

# Chain of Custody Record & Laboratory Analysis Request

1 of 3

Analytical Resources, Incorporated  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)



Page: \_\_\_\_\_ of \_\_\_\_\_  
 Date: \_\_\_\_\_  
 No. of Coolers: \_\_\_\_\_  
 Ice Present? \_\_\_\_\_  
 Cooler Temps: \_\_\_\_\_

ARI Assigned Number: 0899  
 Turn-around Requested: \_\_\_\_\_  
 ARI Client Company: NEWFIELDS  
 Phone: 3602976040  
 Client Contact: M. PINZA  
 Client Project Name: DOUGLAS HARBOR  
 Client Project #: 1414-001-860  
 Samplers: \_\_\_\_\_

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					GRAIN SIZE	TGC			
REF-03	11/17/08		SED	2	1	1			
REF-04				2	1	1			
REF-05				2	1	1			
REF-01				2	1	1			
REF-02				2	1	1			
REF-COMP				2	1	1			
COMP-1 Lower				2	1	1			
COMP-1 Upper				2	1	1			
COMP 4A Lower				2	1	1			
COMP 4A Upper				2	1	1			

Relinquished by: \_\_\_\_\_  
 (Signature) \_\_\_\_\_  
 Printed Name: Jay Ward  
 Company: ARI  
 Date & Time: 12/2/08 1020

Received by: \_\_\_\_\_  
 (Signature) \_\_\_\_\_  
 Printed Name: A. Bergardsen  
 Company: \_\_\_\_\_  
 Date & Time: \_\_\_\_\_

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

# CHAIN OF CUSTODY

## 13388

NewFields Northwest, LLC.  
 Shipping: 4729 NE View Dr.  
 Mailing: P.O. Box 216  
 Port Gamble, WA. 98364  
 Tel: (360) 297-6040, Fax: (360)297-7268



Destination Lab: **ARI 2923**  
 Destination Contact:  
 Date:  
 Turn-Around-Time:  
 Project Name: **DOUGLAS HARBOR**  
 Contract/PO: **1414-001-860**

Sample Originator: **NEW FIELDS**  
 Contact Name: **MEG PINZA**  
 Address:  
 Phone: **360-297-6066**  
 Fax:  
 E-mail:

No.	Sample ID	Matrix	No. & Type of Container	Date & Time	Analysis		Preservation	Sample Temp Upon Receipt	LAB ID
					gpc	TOC			
1	Comp 48 - upper	20 glass	↓	11/17/2008	1	1			
2	Comp 43 - lower	↓	↓	↓	1	1			
3	Comp 2 - lower	↓	↓	↓	1	1			
4	<del>Comp 2 - upper</del>	↓	↓	↓	1	1			
5	Comp 2 - upper	↓	↓	↓	1	1			
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Invoicing To:  
 Comments or Special Instructions:  
 Relinquished by: **Jay Ward**  
 Received by: **A. Bergardsen**  
 Print Name: **Jay Ward**  
 Signature: **Jay Ward**  
 Affiliation: **NewFields**  
 Date/Time: **12/2/08 1020**  
 Print Name: **A. Bergardsen**  
 Signature: **A. Bergardsen**  
 Affiliation: **ARI**  
 Date/Time: **12/2/08 1020**

Matrix Codes  
 FW = Fresh Water  
 WW = Waste Water  
 SB = Salt & Brackish Water  
 SS = Soil & Sediment  
 TS = plant & Animal Tissue  
 OT = Other

① error-cw



SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: REF-03  
ARI ID: 08-32152 OB99A

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	60.10
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.687

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized  
Reported: 12/05/08

A handwritten signature in black ink, appearing to be 'OK' or similar initials.

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08


Client ID: REF-04  
ARI ID: 08-32153 OB99B

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	52.90
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.735

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08


Client ID: REF-05  
ARI ID: 08-32154 OB99C

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	50.40
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.919

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: REF-01  
ARI ID: 08-32155 OB99D

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	63.00
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.562

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08


Client ID: REF-02  
ARI ID: 08-32156 OB99E

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	64.90
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.544

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08


Client ID: REF-COMP  
ARI ID: 08-32157 OB99F

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	60.00
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.706

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP-1 LOWER  
ARI ID: 08-32158 OB99G

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	84.00
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.067

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP-1 UPPER  
ARI ID: 08-32159 OB99H

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	64.30
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	1.88

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized  
Reported: 12/05/08

A handwritten signature in black ink, appearing to be 'J. V.' or similar, written over the 'Data Release Authorized' text.

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP 4A LOWER  
ARI ID: 08-32160 OB99I

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	81.80
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.069

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP 4A UPPER  
ARI ID: 08-32161 OB99J

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	61.10
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.798

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized  
Reported: 12/05/08

A handwritten signature in black ink, appearing to be 'M. J.', written over the 'Data Release Authorized' text.

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08


Client ID: COMP 4B-UPPER  
ARI ID: 08-32162 OB99K

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	63.80
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.837

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP 4B-LOWER  
ARI ID: 08-32163 OB99L

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	80.30
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.055

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized  
Reported: 12/05/08

A handwritten signature in black ink, appearing to be 'M' or 'W', written over the 'Data Release Authorized' text.

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP 2-LOWER  
ARI ID: 08-32164 OB99M

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	81.00
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.047

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized  
Reported: 12/05/08

A handwritten signature in black ink, appearing to be 'AS', written over the 'Data Release Authorized' text.

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Client ID: COMP 2-UPPER  
ARI ID: 08-32165 OB99N

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/02/08 120208#1	EPA 160.3	Percent	0.01	65.80
Total Organic Carbon	12/04/08 120408#1	Plumb, 1981	Percent	0.020	0.621

RL Analytical reporting limit  
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC




Matrix: Sediment  
Data Release Authorized *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: OB99A    Client ID: REF-03						
Total Organic Carbon	12/04/08	Percent	0.687	1.52	0.687	121.3%

REPLICATE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: 11/17/08  
Date Received: 12/02/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: OB99A    Client ID: REF-03					
Total Solids	12/02/08	Percent	60.10	62.70 63.10	2.6%
Total Organic Carbon	12/04/08	Percent	0.687	0.646 0.647	3.5%

LAB CONTROL RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC




Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	12/04/08	Percent	0.508	0.500	101.6%

METHOD BLANK RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC




Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	12/02/08	Percent	< 0.01 U
Total Organic Carbon	12/04/08	Percent	< 0.020 U

STANDARD REFERENCE RESULTS-CONVENTIONALS  
OB99-NEWFIELDS NORTHWEST LLC



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/05/08

Project: DOUGLAS HARBOR  
Event: 1414-001-860  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	12/04/08	Percent	3.10	3.35	92.5%



**Client:** Newfields Northwest, LLC

**ARI Project No.:** OB99

**Client Project:** Douglas Harbor

**Client Project No.:** 1414-001-860

### Case Narrative

1. Fourteen samples were submitted for grain size analysis according to PSEP methodology.
2. The samples were run in a single batch, and one sample from this job, REF-05, was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. Some samples contained shells and/or fragments of shells.
4. Some samples contained organic material which may have broken down during the sieving process, skewing the grain size data.
5. The data is provided in summary tables and plots.
6. There were no other noted anomalies in this project.

Approved by:   
Geotechnical Division Manager

Date: 12/30/08





Newfields Northwest, LLC  
Douglas Harbor 1414-001-860

Apparent Grain Size Distribution Summary  
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
											8 to 9	9 to 10	<10	
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	<10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (-62)
REF-05	0.1	0.2	0.3	0.5	0.8	3.8	21.0	16.1	14.6	9.3	5.1	10.6	17.7	94.3
REF-05	0.3	0.2	0.3	0.6	0.8	3.9	13.2	21.8	16.2	9.3	5.0	10.6	17.8	93.9
REF-05	0.0	0.4	0.3	0.6	0.8	4.1	17.0	18.4	15.4	9.4	5.3	10.4	17.9	93.8
REF-03	6.1	5.2	4.9	5.0	4.4	8.8	17.1	11.1	8.1	6.0	3.6	6.4	13.4	65.6
REF-04	19.4	2.3	2.1	1.9	2.3	6.2	12.1	11.7	9.9	6.6	4.3	7.3	13.8	65.8
REF-01	14.0	3.6	3.6	4.6	3.9	10.8	18.2	9.8	6.6	3.9	4.8	4.7	11.4	59.4
REF-02	19.3	5.2	4.6	4.3	3.6	8.3	15.0	8.7	6.4	4.8	3.4	5.1	11.3	54.8
REF-COMP	8.3	3.0	3.2	3.4	3.0	7.9	17.2	11.9	9.6	7.0	3.9	6.9	14.6	71.1
COMP-1 LOWER	0.4	0.7	2.8	5.0	13.7	19.4	22.1	14.2	9.2	5.3	2.6	2.2	2.5	58.0
COMP-1 UPPER	14.5	7.2	8.7	10.0	11.2	8.9	8.8	7.7	6.7	4.2	2.3	4.1	5.6	39.5
COMP 4A LOWER	0.2	0.5	2.5	6.2	11.0	14.1	20.1	17.0	12.5	6.6	3.5	2.4	3.3	65.5
COMP 4A UPPER	2.9	1.5	1.2	1.1	1.6	6.2	16.4	17.3	16.1	10.7	5.8	7.5	11.9	85.5
COMP 4B-UPPER	2.4	0.8	0.8	0.7	1.2	7.4	21.7	18.5	14.8	10.1	5.1	6.4	10.2	86.7
COMP 4B-LOWER	0.0	0.2	0.8	1.4	4.9	16.0	32.6	18.6	11.3	6.4	2.9	2.0	2.9	76.7
COMP 2-LOWER	0.0	0.2	0.8	1.8	10.4	34.2	33.9	9.8	3.9	1.9	0.8	0.9	1.2	52.5
COMP 2-UPPER	0.7	0.9	1.2	0.9	2.0	9.6	22.3	19.0	13.0	9.1	5.5	4.6	11.2	84.8

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

**QA SUMMARY**

Client: Newfields Northwest, LLC	Project No.: Douglas Harbor 1414-001-860	
ARI Trip. Sample ID: OB99C	Batch No.: OB99-1	
Client Trip. Sample ID: REF-05	Page: 1 of 1	

Sample ID	Relative Standard Deviation, By Phi Size													
	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
REF-05	100.0	100.0	99.9	99.7	99.4	98.9	98.1	94.3	73.3	57.2	42.7	33.4	28.2	17.7
REF-05	100.0	100.0	99.7	99.5	99.1	98.5	97.7	93.9	80.7	58.9	42.8	33.5	28.4	17.8
REF-05	100.0	100.0	100.0	99.6	99.3	98.7	97.9	93.8	76.8	58.4	43.0	33.6	28.4	17.9
AVE	NA	100.00	99.86	99.61	99.29	98.72	97.91	94.00	76.93	58.16	42.80	33.48	28.34	17.81
STDEV	NA	0.00	0.18	0.13	0.15	0.18	0.18	0.29	3.70	0.87	0.17	0.14	0.10	0.12
%RSD	NA	0.00	0.18	0.13	0.15	0.18	0.18	0.31	4.81	1.49	0.39	0.41	0.36	0.70

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
REF-05	12/2/2008	12/11/2008	12/24/2008	99.2		14.8
REF-05	12/2/2008	12/11/2008	12/24/2008	100.0		14.6
REF-05	12/2/2008	12/11/2008	12/24/2008	100.3		14.7
REF-03	12/2/2008	12/11/2008	12/24/2008	104.0		15.8
REF-04	12/2/2008	12/11/2008	12/24/2008	101.5		18.0
REF-01	12/2/2008	12/11/2008	12/24/2008	101.2		22.2
REF-02	12/2/2008	12/12/2008	12/24/2008	101.2		22.3
REF-COMP	12/2/2008	12/12/2008	12/24/2008	102.3		18.4
COMP-1 LOWER	12/2/2008	12/12/2008	12/24/2008	101.4		18.5
COMP-1 UPPER	12/2/2008	12/12/2008	12/24/2008	102.3		19.9
COMP 4A LOWER	12/2/2008	12/12/2008	12/24/2008	100.1		17.1
COMP 4A UPPER	12/2/2008	12/12/2008	12/24/2008	99.9		22.3
COMP 4B-UPPER	12/2/2008	12/12/2008	12/24/2008	100.5		20.1
COMP 4B-LOWER	12/2/2008	12/12/2008	12/24/2008	102.6		16.0
COMP 2-LOWER	12/2/2008	12/12/2008	12/24/2008	104.3		16.1
COMP 2-UPPER	12/2/2008	12/12/2008	12/24/2008	97.3		19.3

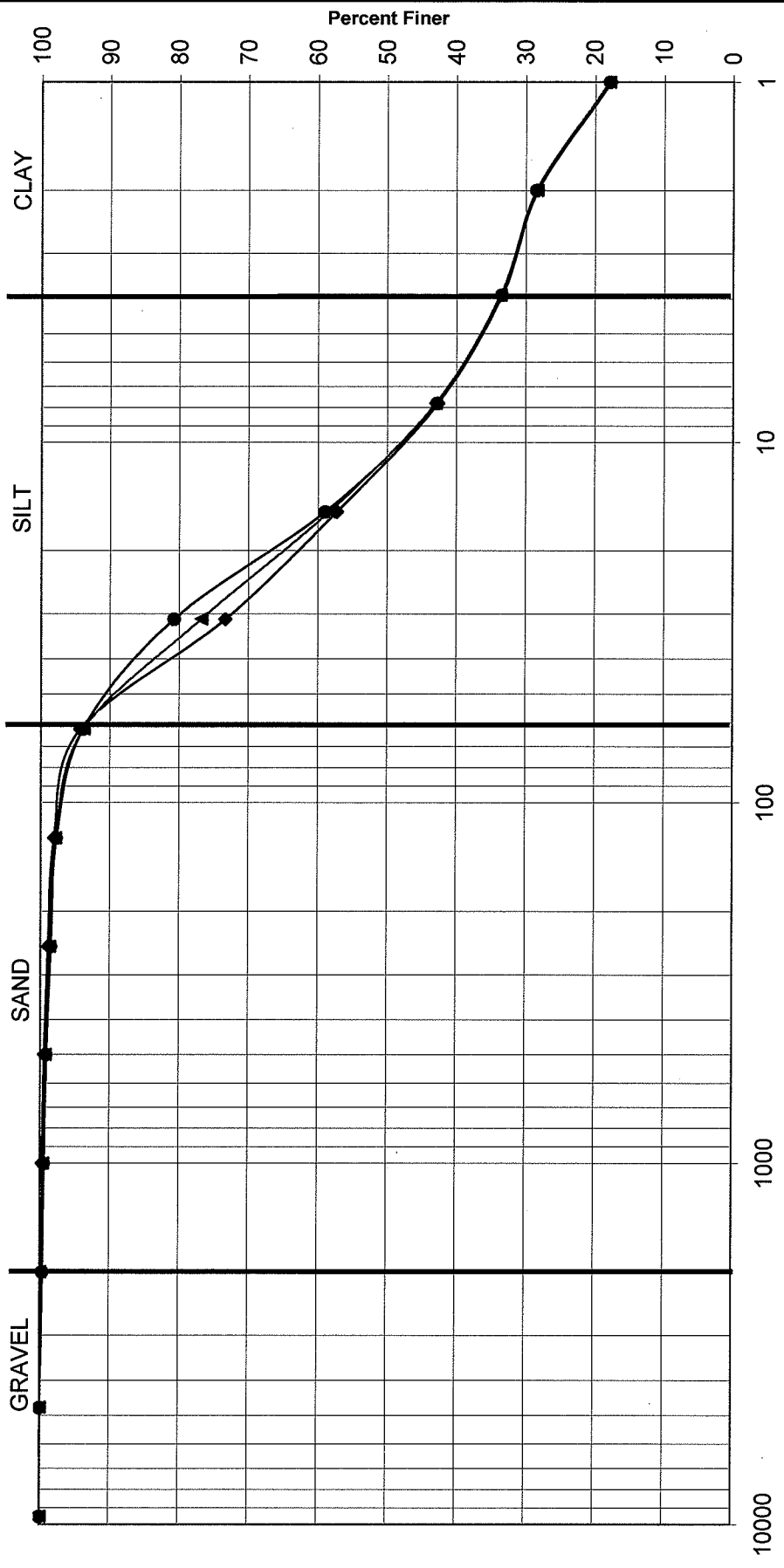
\* ARI Internal QA limits = 95-105%

Notes to the Testing:

- Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

# PSEP Grain Size Distribution

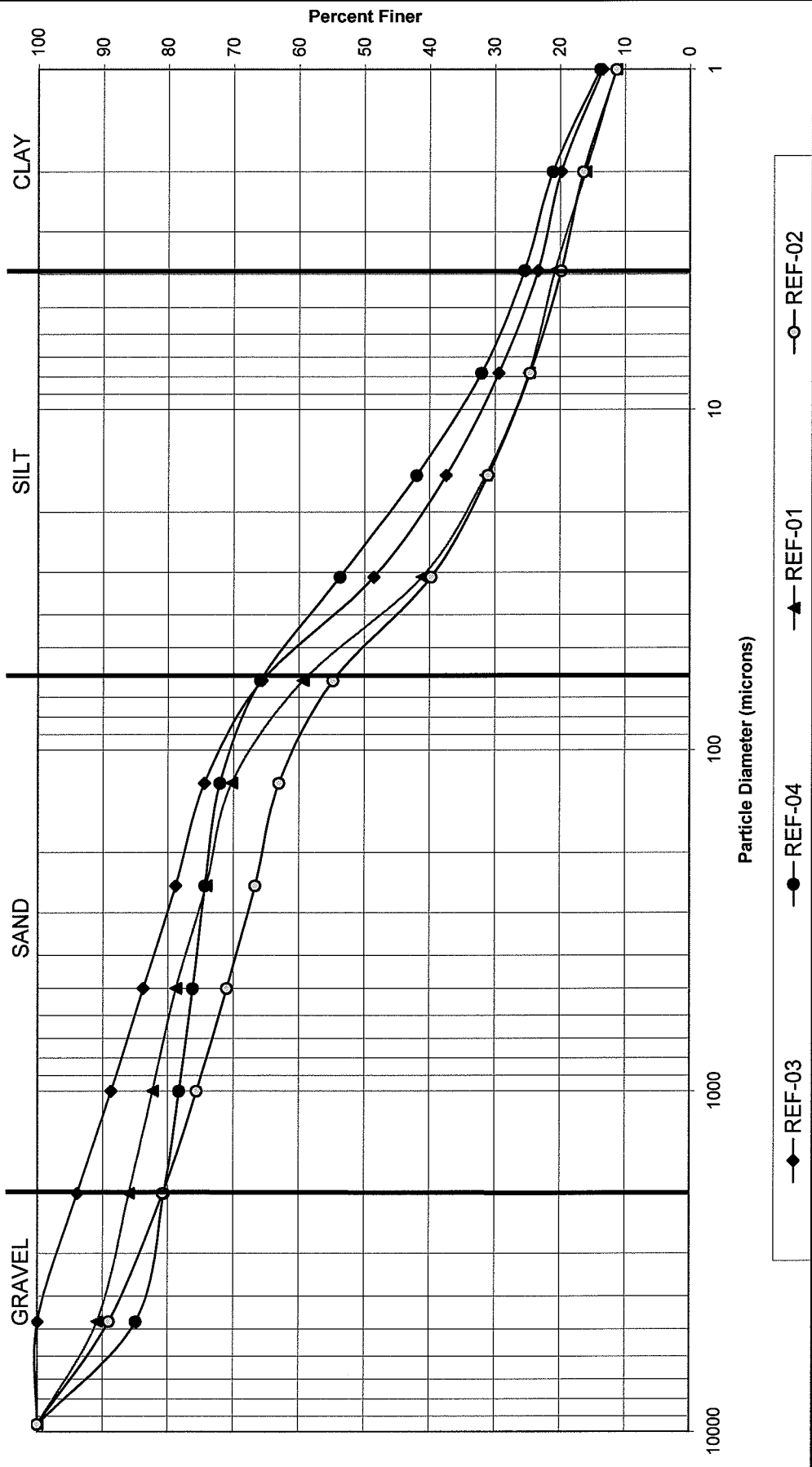
Triplicate Sample Plot



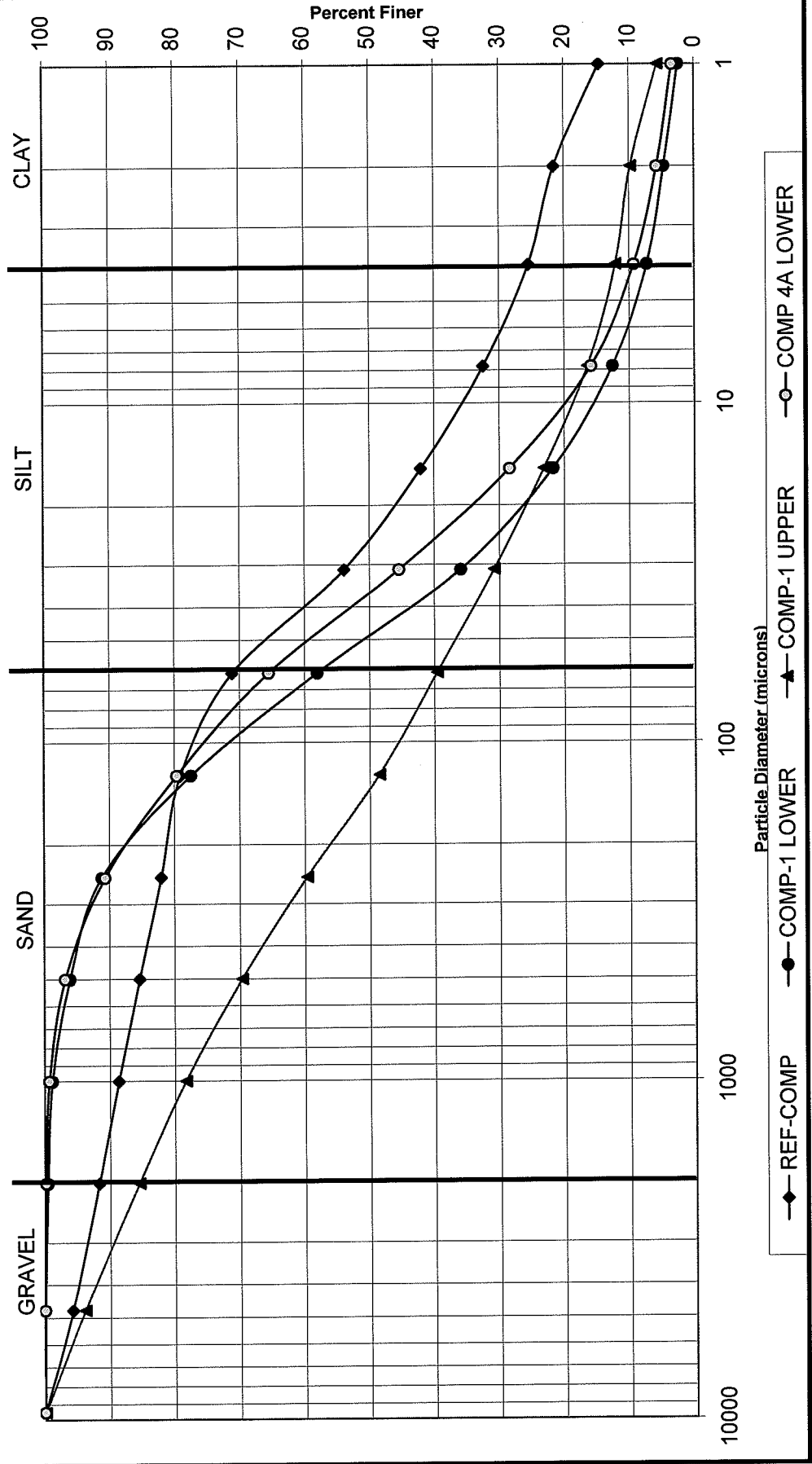
Particle Diameter (microns)

Legend: REF-05 (Diamond), REF-05 (Circle), REF-05 (Triangle)

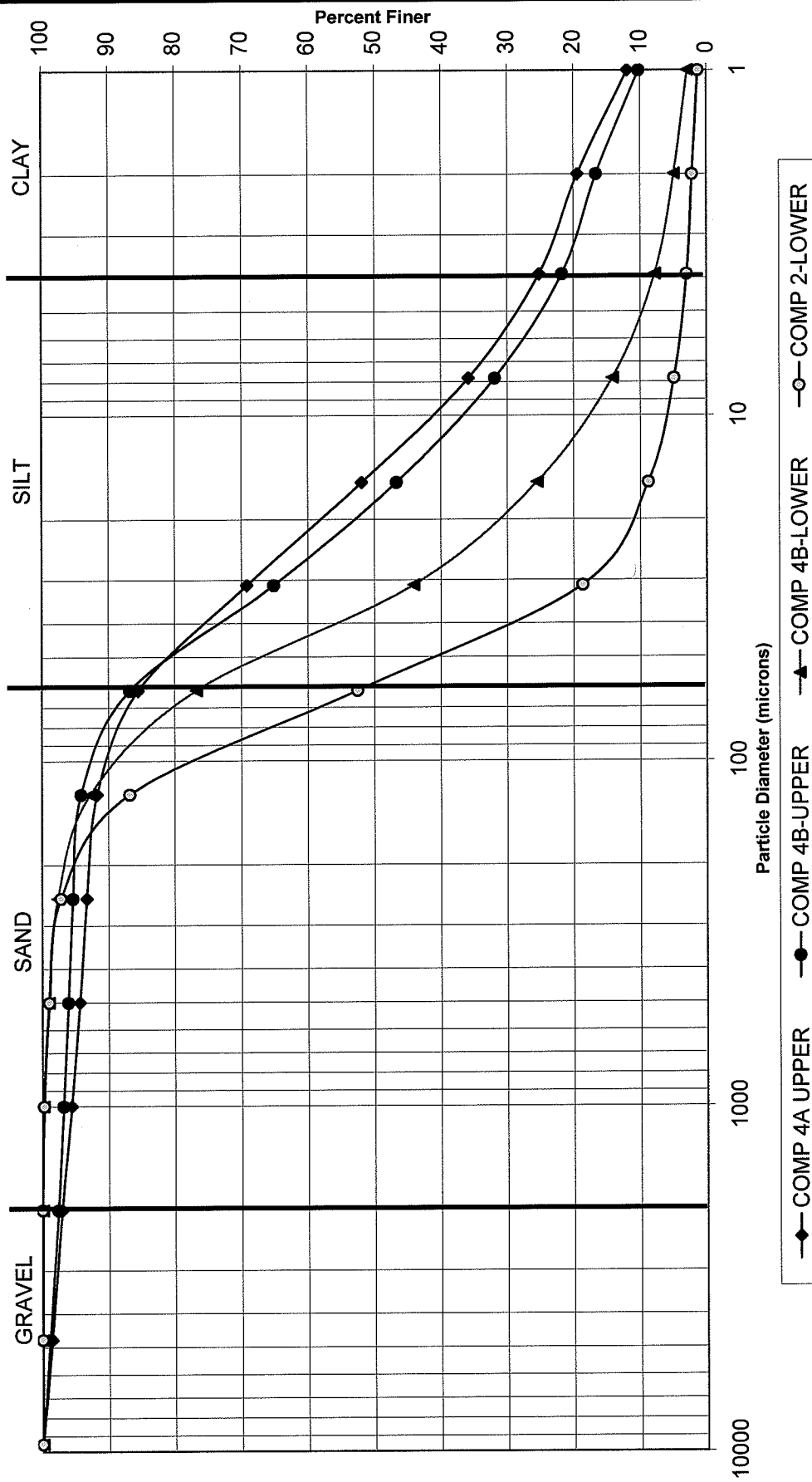
# PSEP Grain Size Distribution



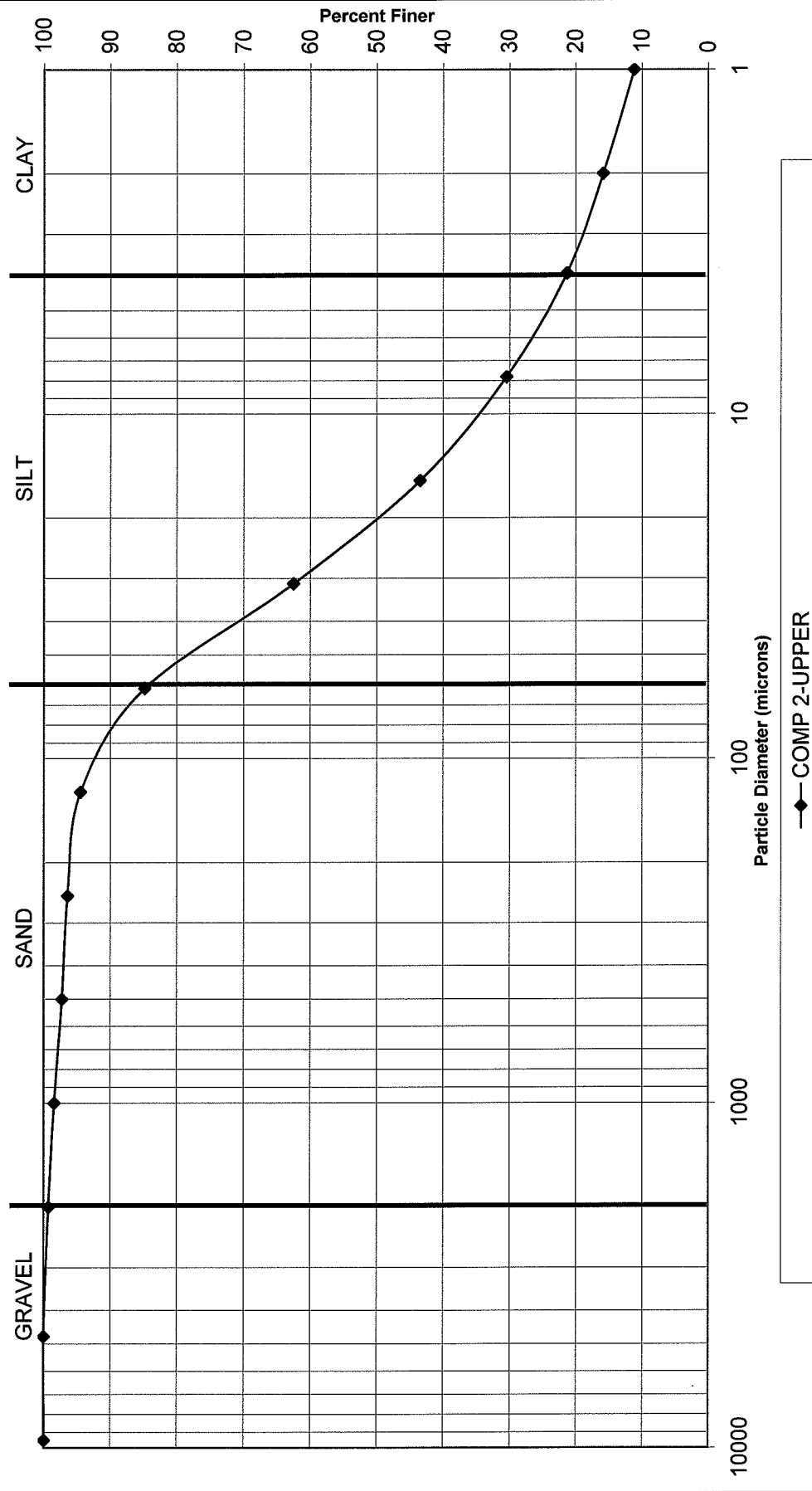
# PSEP Grain Size Distribution



# PSEP Grain Size Distribution



# PSEP Grain Size Distribution





## QA/QC SUMMARY

PROJECT:	NewFields Juneau		
PARAMETER:	Methyl Mercury		
LABORATORY:	Battelle Sequim		
MATRIX:	Sediment		
SAMPLE CUSTODY:	A total of fourteen sediment samples were received as outlined in the table below. The samples were analyzed within 3 days of receipt. The samples were assigned a central file number (2974) and entered into Battelle's sample log-in system. All samples were received at a temperature within the optimal temperature range for unpreserved samples (4±2°C).		
Sample Receipt Date	Number of Samples	Cooler Temperature	Comments
12/1/08	12	3.8°C, 4.6°C	none
12/2/08	2	acceptable	Temp not taken, but plenty of well frozen blue ice was present in the cooler

### QA/QC DATA QUALITY OBJECTIVES:

	Reference Method	Range of Recovery	SRM/OPR Accuracy	Relative Precision	Achieved Detection Limit
Methyl Hg	EPA 1630 mod CVAF	65-135%	66-123 %	≤35%	0.0275 ng/g

**METHOD:** Fourteen wet samples were analyzed for methyl mercury by a modification of EPA Method 1630 (Methyl Mercury in Water by Distillation, Aqueous Ethylation, Purge and Trap, and CVAFS) coupled with the extraction method of Bloom, et al, 1997. Samples were collected on 11/17/08. Samples were analyzed on 12/4/08. No holding time has been established for MeHg in sediments. All samples were stored frozen until analysis. Samples were analyzed on a wet weight basis and results were converted to a dry weight basis using % dry weight values determined by oven drying the samples at 103-105°C until constant weight is achieved.

**BLANKS:** Three method blanks were analyzed with each analytical batch of samples. MeHg was not detected in any of the blanks at a concentration greater than the achieved the detection limit. None of the data were blank corrected.

**MATRIX SPIKES:** Two matrix spike/matrix spike duplicate pairs were analyzed for MeHg. All recoveries were within the criteria limits specified above. The RPDs on the MS/MSD pairs were within the method acceptance criteria for precision.

**REPLICATES:** One sample was analyzed in duplicate for MeHg. Precision is reported

## QA/QC SUMMARY

by calculating the relative standard deviation (RSD) of replicate results. The RSD was within the method acceptance criteria limits listed above.

SRM: Two samples of the standard reference material IAEA-405 were analyzed with the batch of samples for MeHg. The recovery was within the criteria limits listed above.

ANALYTICAL NOTES: None

Data Release:

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Brenda Lasorsa  
Project Manager

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Carolynn Suslick  
Quality Assurance Reviewer

## QA/QC SUMMARY

PROJECT:	NewFields Juneau		
PARAMETER:	Total Mercury		
LABORATORY:	Battelle Sequim		
MATRIX:	Sediment		
SAMPLE CUSTODY:	A total of fourteen sediment samples were received as outlined in the table below. The samples were analyzed within 1 day of receipt. The samples were assigned a central file number (2974) and entered into Battelle's sample log-in system. All samples were received at a temperature within the optimal temperature range for unpreserved samples (4±2°C).		
Sample Receipt Date	Number of Samples	Cooler Temperature	Comments
12/1/08	12	3.8°C, 4.6°C	none
12/2/08	2	acceptable	Temp not taken, but plenty of well frozen blue ice was present in the cooler

### QA/QC DATA QUALITY OBJECTIVES:

	Reference Method	Range of Recovery	SRM/OPR Accuracy	Relative Precision	Achieved Detection Limit
Total Hg	EPA 7473 CVAA	80-120%	≤20%	≤20%	0.00199 µg/g

**METHOD:** Fourteen wet samples were analyzed for total mercury by EPA Method 7473 (Thermal Decomposition, Amalgamation, and Cold Vapor Atomic Spectrophotometry). Samples were collected on 11/17/08. Samples were analyzed on 12/2/08, which is within the EPA holding time of 180 days. All samples were stored at 4±2°C until analysis. Samples were analyzed on a wet weight basis and results were converted to a dry weight basis using % dry weight values determined by oven drying the samples at 103-105°C until constant weight is achieved.

**BLANKS:** Three method blanks were analyzed with each analytical batch of total Hg. Total Hg was not detected in any of the blanks at a concentration greater than the achieved the detection limit. None of the data were blank corrected.

**BLANK SPIKES (OPR/LCS):** Two ongoing precision and recovery (OPR) samples were analyzed with each analytical batch of samples for total Hg. All recoveries were within the criteria limits specified in the table above.

**MATRIX SPIKES:** One matrix spike/matrix spike duplicate pair was analyzed for total Hg. All recoveries were within the criteria limits specified above. The RPD on the MS/MSD pair was within the method acceptance criteria for precision.

## QA/QC SUMMARY

REPLICATES: One sample was analyzed in duplicate for total Hg. Precision is reported by calculating the relative standard deviation (RSD) of replicate results. The RSD was within the method acceptance criteria limits listed above.

SRM: One sample of the standard reference material IAEA-405 was analyzed with the batch of samples for total Hg. The recovery was within the criteria limits listed above.

ANALYTICAL NOTES: None

Data Release:

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Brenda Lasorsa  
Project Manager

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Lara Aston  
Quality Assurance Reviewer

cc: Project Manager/Central File  
Login File

2974

## **SAMPLE LOGIN**

(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 12/02/08  
Batch: 2

PROJECT: New Fields-Douglas Harbor

<b>SPONSOR CODE</b>	<b>Site Description</b>	<b>BATTELLE CODE</b>	<b>MATRIX</b>	<b>STORAGE LOCATION</b>	<b>PARAMETERS REQUESTED</b>	<b>COLLECTION DATE</b>	<b>INITIALS</b>
COMP 2-LOWER (no porewater)	na	2974-13s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 2-UPPER	na	2974-14s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 2-UPPER	na	2974-14w	water	Hg Lab	Hg	12/02/08	MLFM

cc: Project Manager/Central File  
Login File

2974

## SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa

Date Received: 12/01/08

Batch: 1

PROJECT: New Fields-Douglas Harbor

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
REF-03	na	2974-1s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-04	na	2974-2s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-05	na	2974-3s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-01	na	2974-4s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-02	na	2974-5s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-COMP	na	2974-6s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 1-LOWER, (no porewater)	na	2974-7s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 1-UPPER	na	2974-8s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4A-LOWER	na	2974-9s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4A-UPPER	na	2974-10s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4B-UPPER	na	2974-11s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4B-LOWER, (no porewater)	na	2974-12s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-03	na	2974-1w	water	Hg Lab	Hg	12/01/08	MLFM
REF-04	na	2974-2w	water	Hg Lab	Hg	12/01/08	MLFM
REF-05	na	2974-3w	water	Hg Lab	Hg	12/01/08	MLFM
REF-01	na	2974-4w	water	Hg Lab	Hg	12/01/08	MLFM
REF-02	na	2974-5w	water	Hg Lab	Hg	12/01/08	MLFM
REF-COMP	na	2974-6w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 1-UPPER	na	2974-8w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4A-LOWER	na	2974-9w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4A-UPPER	na	2974-10w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4B-UPPER	na	2974-11w	water	Hg Lab	Hg	12/01/08	MLFM

**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
 Sequim, Washington 98382-9099  
 360/681-3604

**NewFields**  
**METHYLMERCURY IN SEDIMENT/SOIL**  
 (Samples Received 12/1-2/08)

MSL Code	Field ID	Collection Date	Percent Dry Weight	MeHg Batch ID	MeHg (ng/g dry)
2974-1s	REF-03	11/17/08	63.3	120408MEA	0.314
2974-2s	REF-04	11/17/08	55.9	120408MEA	0.445
2974-3s	REF-05	11/17/08	51.9	120408MEA	0.350
2974-4s	REF-01	11/17/08	64.5	120408MEA	0.294
2974-5s	REF-02	11/17/08	63.2	120408MEA	0.308
2974-6s	REF-COMP	11/17/08	58.7	120408MEA	0.277
2974-7s	COMP 1-LOWER	11/17/08	82.9	120408MEA	3.05
2974-8s	COMP 1-UPPER	11/17/08	61.8	120408MEA	2.47
2974-9s r1	COMP 4A-LOWER	11/17/08	80.8	120408MEA	3.46
2974-9s r2	COMP 4A-LOWER	11/17/08	80.8	120408MEA	3.33
2974-10s	COMP 4A-UPPER	11/17/08	61.6	120408MEA	1.34
2974-11s	COMP 4B-UPPER	11/17/08	64.9	120408MEA	1.08
2974-12s	COMP 4B-LOWER	11/17/08	80.9	120408MEA	2.44
2974-13s	COMP 2-LOWER	11/17/08	80.7	120408MEA	0.796
2974-14s	COMP 2-UPPER	11/17/08	60.1	120408MEA	0.802

**ACHIEVED DETECTION LIMIT (average)**

120408MEA      0.0275

**METHOD BLANKS**

Blank r1	120408MEA	0.0275 U
Blank r2	120408MEA	0.0275 U
Blank r3	120408MEA	0.0275 U

**STANDARD REFERENCE MATERIALS**

IAEA 405	120408MEA	4.35
IAEA 405	120408MEA	4.57
certified value		5.49
range		±0.53
percent recovery	120408MEA	79%
percent recovery	120408MEA	83%

**MATRIX SPIKE RESULTS**

Amount Spiked				18.7
2974-2s	REF-04	11/17/08	55.9	120408MEA
2974-2s MS				16.4
Amount Recovered				16.0
Percent Recovery				85%
Amount Spiked				18.7
2974-2s	REF-04	11/17/08	55.9	120408MEA
2974-2s MSD				14.2
Amount Recovered				13.8

**BATTELLE MARINE SCIENCE LABORATORIES**

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 360/681-3604

**NewFields**  
 METHYLMERCURY IN SEDIMENT/SOIL  
 (Samples Received 12/1-2/08)

MSL Code	Field ID	Collection Date	Percent Dry Weight	MeHg Batch ID	MeHg (ng/g dry)
Percent Recovery					74%
RPD					15%



**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
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**NewFields**  
**METHYLMERCURY IN SEDIMENT/SOIL**  
 (Samples Received 12/1-2/08)

MSL Code	Field ID	Collection Date	Percent Dry Weight	MeHg Batch ID	MeHg (ng/g dry)
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**MATRIX SPIKE RESULTS**

Amount Spiked					17.1
2974-5s	REF-02	11/17/08	63.2	120408MEA	0.308
2974-5s MS					17.4
Amount Recovered					17.1
Percent Recovery					100%
Amount Spiked					17.0
2974-5s	REF-02	11/17/08	63.2	120408MEA	0.308
2974-5s MSD					15.9
Amount Recovered					15.6
Percent Recovery					92%
RPD					9%

**REPLICATE ANALYSIS RESULTS**

2974-9s r1	COMP 4A-LOWER	11/17/08	80.8	120408MEA	3.46
2974-9s r2	COMP 4A-LOWER	11/17/08	80.8	120408MEA	3.33
RSD					4%

U Not detected at or above DL shown  
 NA Not Applicable  
 NS Not Spiked

Approvals:			
Project Manager	Date	QC Reviewer	Date

**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
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 360/681-3604

**NewFields**  
 TOTAL MERCURY IN SEDIMENT/SOIL  
 (Samples Received 12/1-2/08)

MSL Code	Field ID	Collection Date	Percent Dry Weight	THg Batch ID	THg (µg/g dry)
2974-1s	REF-03	11/17/08	63.3	120208DMA	0.199
2974-2s	REF-04	11/17/08	55.9	120208DMA	0.268
2974-3s	REF-05	11/17/08	51.9	120208DMA	0.303
2974-4s	REF-01	11/17/08	64.5	120208DMA	0.178
2974-5s	REF-02	11/17/08	63.2	120208DMA	0.195
2974-6s	REF-COMP	11/17/08	58.7	120208DMA	0.226
2974-7s	COMP 1-LOWER	11/17/08	82.9	120208DMA	1.29
2974-8s	COMP 1-UPPER	11/17/08	61.8	120208DMA	1.11
2974-9s r1	COMP 4A-LOWER	11/17/08	80.8	120208DMA	2.21
2974-9s r2	COMP 4A-LOWER	11/17/08	80.8	120208DMA	2.56
2974-10s	COMP 4A-UPPER	11/17/08	61.6	120208DMA	3.22
2974-11s	COMP 4B-UPPER	11/17/08	64.9	120208DMA	2.33
2974-12s	COMP 4B-LOWER	11/17/08	80.9	120208DMA	3.18
2974-13s	COMP 2-LOWER	11/17/08	80.7	120208DMA	1.97
2974-14s	COMP 2-UPPER	11/17/08	60.1	120208DMA	2.50

**ACHIEVED DETECTION LIMIT (average)**

DMA 0.00199

**METHOD BLANKS**

Blank r1	120208DMA	0.00199 U
Blank r2	120208DMA	0.00199 U
Blank r3	120208DMA	0.00199 U

**STANDARD REFERENCE MATERIALS**

IAEA 405	120208DMA	0.828
certified value		0.81
range		±0.04
percent recovery	120208DMA	102%

**BLANK SPIKE RESULTS**

Amount Spiked		0.152
Blank	120208DMA	0.00199 U
Blank MS	120208DMA	0.152
Amount Recovered		0.152
Percent Recovery		100%
Amount Spiked		0.168
Blank	120208DMA	0.00199 U
Blank MS	120208DMA	0.171
Amount Recovered		0.171
Percent Recovery		102%

**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
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 360/681-3604

**NewFields**  
 TOTAL MERCURY IN SEDIMENT/SOIL  
 (Samples Received 12/1-2/08)

MSL Code	Field ID	Collection Date	Percent Dry Weight	THg Batch ID	THg (µg/g dry)
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**MATRIX SPIKE RESULTS**

Amount Spiked					0.865
2974-5s	REF-02	11/17/08	63.2	120208DMA	0.195
2974-5s MS					1.04
Amount Recovered					0.842
Percent Recovery					97%
Amount Spiked					0.815
2974-5s	REF-02	11/17/08	63.2	120208DMA	0.195
2974-5s MSD					0.987
Amount Recovered					0.792
Percent Recovery					97%
RPD					0%

**REPLICATE ANALYSIS RESULTS**

2974-9s r1	COMP 4A-LOWER	11/17/08	80.8	120208DMA	2.21
2974-9s r2	COMP 4A-LOWER	11/17/08	80.8	120208DMA	2.56
RSD					15%

U Not detected at or above DL shown  
 NA Not Applicable  
 NS Not Spiked

Approvals:

Project Manager	Date	QC Reviewer	Date
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## QA/QC SUMMARY

PROJECT:	NewFields Juneau		
PARAMETER:	Total and Methyl Mercury		
LABORATORY:	Battelle Sequim		
MATRIX:	Pore Water		
SAMPLE CUSTODY:	Fourteen sediment samples were received between 12/1/08 and 12/2/08. The samples were centrifuged and filtered to extract the pore water. The samples were preserved upon completion of filtration. Three of the samples did not produce any pore water. The 11 pore water samples were assigned a central file number (2974) and entered into Battelle's sample log-in system. After preservation, all samples were stored at room temperature in the dark.		
Sample Receipt Date	Number of Samples	Cooler Temperature	Comments
12/1/08	12	3.8°C, 4.6°C	none
12/2/08	2	acceptable	Temp not taken, but plenty of well frozen blue ice was present in the cooler

### QA/QC DATA QUALITY OBJECTIVES:

	Reference Method	Range of Recovery	SRM/OPR Accuracy	Relative Precision	Achieved Detection Limit
Total Hg	1631 CVAF	71-125%	≤23%	≤21%	0.154 ng/L
Methyl Hg	1630 CVAF	65-135%	≤33%	≤35%	0.0100 ng/L

### METHOD:

All pore water samples were digested for total mercury by subjecting them to bromine monochloride oxidation for a minimum 24 hours. Samples were analyzed by EPA Method 1631e on 12/9/08, which is within the holding time of 90 days. Mercuric ions in the oxidized sample were reduced to Hg<sup>0</sup> with SnCl<sub>2</sub>, and then purged onto gold-coated sand traps as a means of preconcentration and interference removal. Mercury vapor was thermally desorbed to a second "analytical" gold trap, and from that into a fluorescence cell. Fluorescence (peak area) is proportional to the quantity of mercury collected, which is quantified using an average response factor as a function of the quantity of sample purged.

All pore water samples were distilled by the method of Horvat, et al., 1993 for methyl mercury. Samples were analyzed by EPA Method 1630 on 12/12/08, which is within the holding time of 180 days. Methylmercury in the distilled sample was ethylated and then purged onto carbon traps as a means of preconcentration and interference removal. The ethylated methylmercury was thermally desorbed into a fluorescence cell. Fluorescence (peak area) is proportional to the quantity of methylmercury collected, which is quantified using an average response factor as a function of the quantity of sample purged.

**BATTELLE MARINE SCIENCES LABORATORY**

1529 West Sequim Bay Road

Sequim, WA 98382-9099

360/681-3650

**NewFields****MERCURY SPECIATION IN POREWATER**

(Samples Received 12/1-2/08)

MSL Code Hg	Site ID	Collection Date	THg Run Batch	THg ng/L	MeHg Run Batch	MeHg ng/L
2974-1s	REF-03	11/17/08	120908HGA	10.7	121208MEA	0.582
2974-2s	REF-04	11/17/08	120908HGA	19.4	121208MEA	1.90
2974-3s	REF-05	11/17/08	120908HGA	4.11	121208MEA	0.147
2974-4s	REF-01	11/17/08	120908HGA	5.10	121208MEA	0.405
2974-5s	REF-02	11/17/08	120908HGA	10.3	121208MEA	1.36
2974-6s r1	REF-COMP	11/17/08	120908HGA	8.83	121208MEA	0.433
2974-6s r2	REF-COMP	11/17/08	120908HGA	8.09	121208MEA	0.393
2974-8s	COMP 1-UPPER	11/17/08	120908HGA	13.1	121208MEA	0.347
2974-9s	COMP 4A-LOWER	11/17/08	120908HGA	29.2	121208MEA	0.979
2974-10s	COMP 4A-UPPER	11/17/08	120908HGA	14.8	121208MEA	0.382
2974-11s	COMP 4B-UPPER	11/17/08	120908HGA	17.4	121208MEA	0.225
2974-14s	COMP 2-UPPER	11/17/08	120908HGA	25.3	121208MEA	0.225
Porewater Extraction Blank			120908HGA	0.154 U	121208MEA	0.0100 U
Achieved Method Detection Limit			120908HGA	0.154	121208MEA	0.0100

**METHOD BLANK DATA**

Blank r1			120908HGA	0.154 U	121208MEA	0.0100 U
Blank r2			120908HGA	0.154 U	121208MEA	0.0100 U
Blank r3			120908HGA	0.154 U	121208MEA	0.0100 U

**STANDARD REFERENCE MATERIAL DATA**

NIST 1641d			120908HGA	1500000		
				1590000		
				±18000		
			120908HGA	94%		

DORM-2					121208MEA	5.17
						4.47
						±0.32
					121208MEA	116%

**ONGOING PRECISION AND RECOVERY (OPR) RESULTS**

Amount Spiked				4.96		0.500
Mean Blank			120908HGA	0.168	121208MEA	0.0100 U
Mean Blank + Spike			120908HGA	5.19	121208MEA	0.458
Amount Recovered				5.02		0.458
Percent Recovery				<b>101%</b>		<b>92%</b>
Amount Spiked				4.96		0.500

**BATTELLE MARINE SCIENCES LABORATORY**

1529 West Sequim Bay Road

Sequim, WA 98382-9099

360/681-3650

**NewFields****MERCURY SPECIATION IN POREWATER**

(Samples Received 12/1-2/08)

MSL Code Hg	Site ID	Collection Date	THg Run Batch	THg ng/L	MeHg Run Batch	MeHg ng/L
Mean Blank			120908HGA	0.168	121208MEA	0.0100 U
Mean Blank + Spike			120908HGA	4.95	121208MEA	0.456
Amount Recovered				4.78		0.456
Percent Recovery				<b>96%</b>		<b>91%</b>

**MATRIX SPIKE RESULTS**

Amount Spiked				99.4		10.0
2974-1s	REF-03	11/17/08	120908HGA	10.7	121208MEA	0.582
2974-1s MS			120908HGA	98.7	121208MEA	10.7
Amount Recovered				88.0		10.1
Percent Recovery				<b>89%</b>		<b>101%</b>

Amount Spiked				99.4		10.0
2974-1s	REF-03	11/17/08	120908HGA	10.7	121208MEA	0.582
2974-1s MSD			120908HGA	107	121208MEA	10.1
Amount Recovered				96.3		9.52
Percent Recovery				<b>97%</b>		<b>95%</b>

			RPD	9%		6%
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Amount Spiked				99.4		10.0
2974-2s	REF-04	11/17/08	120908HGA	19.4	121208MEA	1.90
2974-2s MS			120908HGA	116	121208MEA	12.6
Amount Recovered				96.6		10.7
Percent Recovery				<b>97%</b>		<b>107%</b>

Amount Spiked				99.4		10.0
2974-2s	REF-04	11/17/08	120908HGA	19.4	121208MEA	1.90
2974-2s MSD			120908HGA	118	121208MEA	11.3
Amount Recovered				98.6		9.40
Percent Recovery				<b>99%</b>		<b>94%</b>

			RPD	2%		13%
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**REPLICATE ANALYSIS RESULTS**

2974-6s r1	REF-COMP	11/17/08	120908HGA	8.83	121208MEA	0.433
2974-6s r2	REF-COMP	11/17/08	120908HGA	8.09	121208MEA	0.393
Mean				8.46		0.413
RPD				<b>9%</b>		<b>10%</b>

U Not detected at or above DL shown

NA Not Applicable

**BATTELLE MARINE SCIENCES LABORATORY**

1529 West Sequim Bay Road  
Sequim, WA 98382-9099  
360/681-3650

**NewFields**  
MERCURY SPECIATION IN POREWATER  
(Samples Received 12/1-2/08)

MSL Code	Collection	THg	THg	MeHg	MeHg
Hg	Date	Run Batch	ng/L	Run Batch	ng/L

Approvals:

Project Manager	Date	Quality Assurance Reviewer	Date

## QA/QC SUMMARY

**PROJECT:** NewFields Juneau  
**PARAMETER:** AVS/SEM  
**LABORATORY:** Battelle/Marine Sciences Laboratory, Sequim, Washington  
**MATRIX:** Sediment

**SAMPLE CUSTODY:** Fourteen sediment samples were received between 12/1/08 and 12/2/08 for AVS/SEM analysis. The containers were received in good condition at  $4\pm 2^{\circ}\text{C}$ , which is appropriate for samples for AVS/SEM analysis (note that the temperature was not recorded on the 12/2 cooler, but there was still plenty of well-frozen blue ice present in the cooler). All of the samples were stored at  $4\pm 2^{\circ}\text{C}$  and analyzed within 24 hours of receipt.

### QA/QC DATA QUALITY OBJECTIVES:

<u>Analyte</u>	<u>Analytical Method</u>	<u>Range of Recovery</u>	<u>Relative Precision</u>	<u>Achieved Detection Limit (<math>\mu\text{mole/g}</math>)</u>
AVS	Allen, et al., 1991	75-125%	$\pm 25\%$	0.0927
SEM Cadmium	ICP-MS (EPA 1638m)	75-125%	$\pm 25\%$	0.0000998
SEM Copper	ICP-MS (EPA 1638m)	75-125%	$\pm 25\%$	0.000618
SEM Nickel	ICP-MS (EPA 1638m)	75-125%	$\pm 25\%$	0.000774
SEM Lead	ICP-MS (EPA 1638m)	75-125%	$\pm 25\%$	0.0000541
SEM Zinc	ICP-MS (EPA 1638m)	75-125%	$\pm 25\%$	0.00120
SEM Mercury	CVAF (EPA 1631e)	75-125%	$\pm 25\%$	0.000000431

**HOLDING TIMES:** All extractions and analyses were conducted within target holding times of 14 days for AVS, 90 days for SEM mercury, and 6 months for SEM metals.

**DETECTION LIMITS:** Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

**BLANKS** Analytical blanks were determined for all analytes. No AVS was detected in the blank at a concentration greater than the MDL. Trace amounts of SEM analytes were detected in the blanks, but at a concentration well below the sample concentrations. Sample concentrations within 3x MDL were J-flagged and should be considered estimates. All SEM data were blank corrected.

**BLANK SPIKES:** Blanks were spiked for AVS. All blank spike recoveries were within the target range of 75%-125%. A low level standard was used as a blank spike for SEM metals analyzed by ICP-MS. All recoveries were within the target range of 75%-125%. Ongoing precision samples (OPRs) were analyzed with each analytical batch of Hg SEM. All recoveries met the criteria of 71% - 123%.

**MATRIX SPIKES:** Matrix spikes were prepared for all SEM metals. Recoveries of all analytes were within the data quality objectives of 75-125%.



## QA/QC SUMMARY

- REPLICATES:** Two analytical replicates were analyzed for AVS. This carries through to the SEM results and is designated "r1" and "r2" on the final report. Precision of replicate analyses is reported by calculating the relative percent difference (RPD) of replicate results. The RPD for the one of the two analytical replicates for AVS (26%) was just outside the quality criteria for precision,  $\leq 25\%$ , while the other pair was within the quality criteria for precision. The RPDs for the analytical replicates for the SEMs generated from the AVS replicate range from 0% to 35%. Only one replicate for Cd (27% RPD), both of which were detected at less than 10x the MDL, and one replicate for Cu (35% RPD) exceeded the data quality objective of  $< 25\%$ .
- LCS/SRM SAMPLES:** A standard reference material (SRM) NIST 1641d or 1640 sample was analyzed for each SEM analyte. No SRM exists for AVS. All recoveries were within the data quality criteria for accuracy of 75-125%.

Approvals

---

Project Manager

Date

QA Reviewer

Date

cc: Project Manager/Central File  
Login File

2974

## **SAMPLE LOGIN**

(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 12/02/08  
Batch: 2

PROJECT: New Fields-Douglas Harbor

<b>SPONSOR CODE</b>	<b>Site Description</b>	<b>BATTELLE CODE</b>	<b>MATRIX</b>	<b>STORAGE LOCATION</b>	<b>PARAMETERS REQUESTED</b>	<b>COLLECTION DATE</b>	<b>INITIALS</b>
COMP 2-LOWER (no porewater)	na	2974-13s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 2-UPPER	na	2974-14s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 2-UPPER	na	2974-14w	water	Hg Lab	Hg	12/02/08	MLFM

cc: Project Manager/Central File  
Login File

2974

## SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa

Date Received: 12/01/08

Batch: 1

PROJECT: New Fields-Douglas Harbor

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
REF-03	na	2974-1s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-04	na	2974-2s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-05	na	2974-3s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-01	na	2974-4s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-02	na	2974-5s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-COMP	na	2974-6s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 1-LOWER, (no porewater)	na	2974-7s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 1-UPPER	na	2974-8s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4A-LOWER	na	2974-9s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4A-UPPER	na	2974-10s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4B-UPPER	na	2974-11s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
COMP 4B-LOWER, (no porewater)	na	2974-12s	sediment	Hg Lab Refridgerator	Hg	11/17/08	MLFM
REF-03	na	2974-1w	water	Hg Lab	Hg	12/01/08	MLFM
REF-04	na	2974-2w	water	Hg Lab	Hg	12/01/08	MLFM
REF-05	na	2974-3w	water	Hg Lab	Hg	12/01/08	MLFM
REF-01	na	2974-4w	water	Hg Lab	Hg	12/01/08	MLFM
REF-02	na	2974-5w	water	Hg Lab	Hg	12/01/08	MLFM
REF-COMP	na	2974-6w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 1-UPPER	na	2974-8w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4A-LOWER	na	2974-9w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4A-UPPER	na	2974-10w	water	Hg Lab	Hg	12/01/08	MLFM
COMP 4B-UPPER	na	2974-11w	water	Hg Lab	Hg	12/01/08	MLFM

**BATTELLE MARINE SCIENCES LABORATORY**

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 Sequim, WA 98382  
 (360) 681-3650

**NewFields Juneau**  
 AVS-SEM in SEDIMENT

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Collection Date	Receipt Date	AVS Analysis Date	SEM ICP-MS Analysis Date	SEM CVAA Analysis Date	% Dry Weight	AVS ( $\mu$ mole/g DW)
BLANK1	2974 Blank 1	NA	NA	12/03/2008	12/04/2008	12/12/2008	65.5	0.0927 U
BLANK2	2974 Blank 2	NA	NA	12/03/2008	12/04/2008	12/12/2008	65.5	0.0927 U
REF-03	2974-1s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	63.4	0.506
REF-04	2974-2s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	55.1	0.258 J
REF-05	2974-3s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	52.3	6.00
REF-01	2974-4s r1	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	66.6	0.444
REF-01	2974-4s r2	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	64.0	0.578
REF-02	2974-5s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	65.2	0.505
REF-COMP	2974-6s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	60.2	1.62
COMP 1-LOWER	2974-7s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	82.2	0.319
COMP 1-UPPER	2974-8s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	61.2	35.6
COMP 4A-LOWER	2974-9s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	80.9	6.50
COMP 4A-UPPER	2974-10s r1	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	61.8	61.8
COMP 4A-UPPER	2974-10s r2	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	61.8	71.7
COMP 4B-UPPER	2974-11s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	61.6	69.9
COMP 4B-LOWER	2974-12s	11/17/2008	12/01/2008	12/03/2008	12/04/2008	12/12/2008	80.6	4.98
COMP 2-LOWER	2974-13s	11/17/2008	12/02/2008	12/03/2008	12/04/2008	12/12/2008	81.0	0.701
COMP 2-UPPER	2974-14s	11/17/2008	12/02/2008	12/03/2008	12/04/2008	12/12/2008	64.3	56.4

Detection Limit (mean used for AVS)

0.0927

3x MDL (for flagging purposes)

0.278

U Not detected or detected <Achieved DL

NA Not available/applicable

J Concentration reported is within 3x MDL; use with caution

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
 Sequim, WA 98382  
 (360) 681-3650

**NewFields Juneau**  
 AVS-SEM in SEDIMENT

SAMPLE ID	SAMPLE ID	SEM Cd	SEM Cu	SEM Hg	SEM Ni	SEM Pb	SEM Zn
SPONSOR	BATTELLE	( $\mu$ mole/g DW)	( $\mu$ mole/g DW)	( $\mu$ mole/g DW)	( $\mu$ mole/g DW)	( $\mu$ mole/g DW)	( $\mu$ mole/g DW)
BLANK1	2974 Blank 1	0.000243 J	0.00410	0.00000375	0.00386	0.000310	0.0128
BLANK2	2974 Blank 2	0.0000998 U	0.00433	0.00000601	0.00132 J	0.000133 J	0.00963
REF-03	2974-1s	0.000811	0.182	0.0000495	0.116	0.0924	0.462
REF-04	2974-2s	0.000826	0.447	0.000109	0.132	0.131	0.573
REF-05	2974-3s	0.00110	0.272	0.0000391	0.159	0.166	0.817
REF-01	2974-4s r1	0.000640	0.161	0.0000643	0.111	0.0786	0.429
REF-01	2974-4s r2	0.000843	0.177	0.0000661	0.111	0.0847	0.458
REF-02	2974-5s	0.000731	0.191	0.0000783	0.126	0.0903	0.505
REF-COMP	2974-6s	0.000565	0.206	0.0000793	0.127	0.109	0.545
COMP 1-LOWER	2974-7s	0.000529	0.0745	0.000681	0.0393	0.0374	0.206
COMP 1-UPPER	2974-8s	0.00316	0.353	0.000167	0.137	0.131	0.765
COMP 4A-LOWER	2974-9s	0.000888	0.0677	0.000591	0.0367	0.0583	0.262
COMP 4A-UPPER	2974-10s r1	0.00355	0.375	0.000194	0.147	0.162	0.923
COMP 4A-UPPER	2974-10s r2	0.00315	0.262	0.000175	0.144	0.159	0.875
COMP 4B-UPPER	2974-11s	0.00298	0.243	0.0000982	0.135	0.148	0.779
COMP 4B-LOWER	2974-12s	0.000680	0.0750	0.00112	0.0296	0.0882	0.231
COMP 2-LOWER	2974-13s	0.000727	0.0450	0.000459	0.0372	0.0313	0.221
COMP 2-UPPER	2974-14s	0.00746	0.291	0.000401	0.156	0.133	1.10
Detection Limit		0.0000998	0.000618	0.000000431	0.000774	0.0000541	0.00120
3x MDL (for flagging purposes)		0.000299	0.00185	0.00000129	0.00232	0.000162	0.00360

U Not detected or detected <Achieved DL

J Concentration reported is within 3x MDL; use with caution

-- Not analyzed

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
 Sequim, WA 98382  
 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	AVS Batch ID	Matrix	% Dry Weight	AVS (µmole/g)	AVS MDL (µmole/g)	SEM RATIO (g/ml)
BLANK1	2974 Blank 1	120108	NA	65.5	-0.0001	0.0119	0.00178
BLANK2	2974 Blank 2	120108	NA	65.5	0.00198	0.0119	0.00178
REF-03	2974-1s	120208	Sediment	63.4	0.506	0.0934	0.00106
REF-04	2974-2s	120208	Sediment	55.1	0.258	0.111	0.000897
REF-05	2974-3s	120208	Sediment	52.3	6.00	0.0503	0.00197
REF-01	2974-4s r1	120208	Sediment	66.6	0.444	0.0500	0.00198
REF-01	2974-4s r2	120208	Sediment	64.0	0.578	0.0552	0.00180
REF-02	2974-5s	120208	Sediment	65.2	0.505	0.0563	0.00176
REF-COMP	2974-6s	120208	Sediment	60.2	1.62	0.0504	0.00197
COMP 1-LOWER	2974-7s	120108	Sediment	82.2	0.319	0.0377	0.00263
COMP 1-UPPER	2974-8s	120108	Sediment	61.2	35.6	0.164	0.000600
COMP 4A-LOWER	2974-9s	120208	Sediment	80.9	6.50	0.0242	0.00411
COMP 4A-UPPER	2974-10s r1	120208	Sediment	61.8	61.8	0.162	0.00061
COMP 4A-UPPER	2974-10s r2	120208	Sediment	61.8	71.7	0.138	0.00072
COMP 4B-UPPER	2974-11s	120208	Sediment	61.6	69.9	0.175	0.00057
COMP 4B-LOWER	2974-12s	120208	Sediment	80.6	4.98	0.0281	0.00353
COMP 2-LOWER	2974-13s	120208	Sediment	81.0	0.701	0.0251	0.00395
COMP 2-UPPER	2974-14s	120208	Sediment	64.3	56.4	0.263	0.00038

Detection Limit (mean used for AVS) 0.0927 0.00178

**Procedural Duplicate Results**

REF-01	2974-4s r1	120208	Sediment	66.6	0.444	0.0500	0.00198
REF-01	2974-4s r2	120208	Sediment	64.0	0.578	0.0552	0.00180

**RPD** **26% \***

COMP 4A-UPPER	2974-10s r1	120208	Sediment	61.8	61.8	0.162	0.00061
COMP 4A-UPPER	2974-10s r2	120208	Sediment	61.8	71.7	0.138	0.00072

**RPD** **15%**

**Laboratory Control Sample Results**

LCS r1 120108					0.529		
LCS r2 120108					0.511		
	<i>Spike Concentration</i>				0.498		
	Percent Recovery				<b>106%</b>		
					<b>103%</b>		
					<b>3%</b>		

U Not detected above DL

\* Outside QC criteria

RPD Relative percent difference

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
 Sequim, WA 98382  
 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Cd (µg/l)	Cd µg/ml	Cd blk corr (µg/ml)	SEM Cd (µg/g)	SEM Cd (µmole/g)
BLANK1	2974 Blank 1	0.0487	0.0000487	0.000049	0.0273	0.000243
BLANK2	2974 Blank 2	0.0000	0.0000000	0.000000	0.000000	0.0000998 U
	<i>mean blank</i>	<i>0.0244</i>	<i>0.0000244</i>	<i>0.0000244</i>	<i>0.0137</i>	<i>0.000171</i>
REF-03	2974-1s	0.121	0.000121	0.0000968	0.0911	0.000811
REF-04	2974-2s	0.108	0.000108	0.0000832	0.0928	0.000826
REF-05	2974-3s	0.269	0.000269	0.000244	0.124	0.00110
REF-01	2974-4s r1	0.167	0.000167	0.000143	0.0720	0.000640
REF-01	2974-4s r2	0.195	0.000195	0.000171	0.0948	0.000843
REF-02	2974-5s	0.169	0.000169	0.000145	0.0821	0.000731
REF-COMP	2974-6s	0.150	0.000150	0.000125	0.0635	0.000565
COMP 1-LOWER	2974-7s	0.181	0.000181	0.000156	0.0594	0.000529
COMP 1-UPPER	2974-8s	0.237	0.000237	0.000213	0.355	0.00316
COMP 4A-LOWER	2974-9s	0.434	0.000434	0.000410	0.0998	0.000888
COMP 4A-UPPER	2974-10s r1	0.268	0.000268	0.000244	0.399	0.00355
COMP 4A-UPPER	2974-10s r2	0.279	0.000279	0.000254	0.354	0.00315
COMP 4B-UPPER	2974-11s	0.214	0.000214	0.000190	0.335	0.00298
COMP 4B-LOWER	2974-12s	0.294	0.000294	0.000270	0.0764	0.000680
COMP 2-LOWER	2974-13s	0.347	0.000347	0.000323	0.0817	0.000727
COMP 2-UPPER	2974-14s	0.341	0.000341	0.000317	0.839	0.00746
Detection Limit		0.0200	0.0000200	0.0000200	0.01122	0.0000998
<b><u>Procedural Duplicate Results</u></b>						
REF-01	2974-4s r1	0.167	0.000167	0.000143	0.0720	0.000640
REF-01	2974-4s r2	0.195	0.000195	0.000171	0.0948	0.000843
	<b>RPD</b>					<b>27% *</b>
COMP 4A-UPPER	2974-10s r1	0.268	0.000268	0.000244	0.399	0.00355
COMP 4A-UPPER	2974-10s r2	0.279	0.000279	0.000254	0.354	0.00315
	<b>RPD</b>					<b>12%</b>
<b><u>Standard Reference Material Data</u></b>				<b><u>Instrument Check</u></b>		
1640 Direct 120408		22.5		Low Level Standard		0.102
Certified Value		22.8		Amount Spiked		0.1
Percent Recovery		99%		Percent Recovery, LLS		102%
<b><u>Matrix Spike Results</u></b>						
COMP 1-UPPER	2974-8s	0.237				
COMP 1-UPPER MS	2974-8s MS	2.38				
COMP 1-UPPER MSD	2974-8s MSD	2.32				
Amount Spiked		2.00				
Percent Recovery, MS		107%				
Percent Recovery, MSD		104%				
	<b>RPD</b>	<b>3%</b>				

**BATTELLE MARINE SCIENCES LABORATORY**

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 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Cu (µg/l)	Cu (µg/ml)	Cu blk corr (µg/ml)	SEM Cu (µg/g)	SEM Cu (µmole/g)
BLANK1	2974 Blank 1	0.822	0.000822	0.000822	0.461	0.00410
BLANK2	2974 Blank 2	0.868	0.000868	0.000868	0.487	0.00433
	<i>mean blank</i>	0.845	0.000845	0.000845	0.474	0.00422
REF-03	2974-1s	13.2	0.0132	0.0123	11.6	0.182
REF-04	2974-2s	26.3	0.0263	0.0255	28.4	0.447
REF-05	2974-3s	34.8	0.0348	0.0340	17.3	0.272
REF-01	2974-4s r1	21.1	0.0211	0.0202	10.2	0.161
REF-01	2974-4s r2	21.1	0.0211	0.0202	11.2	0.177
REF-02	2974-5s	22.2	0.0222	0.0214	12.1	0.191
REF-COMP	2974-6s	26.7	0.0267	0.0258	13.1	0.206
COMP 1-LOWER	2974-7s	13.3	0.0133	0.0125	4.74	0.0745
COMP 1-UPPER	2974-8s	14.3	0.0143	0.0134	22.4	0.353
COMP 4A-LOWER	2974-9s	18.5	0.0185	0.0177	4.30	0.0677
COMP 4A-UPPER	2974-10s r1	15.4	0.0154	0.0146	23.8	0.375
COMP 4A-UPPER	2974-10s r2	12.8	0.0128	0.0120	16.7	0.262
COMP 4B-UPPER	2974-11s	9.57	0.00957	0.00873	15.4	0.243
COMP 4B-LOWER	2974-12s	17.7	0.0177	0.0168	4.77	0.0750
COMP 2-LOWER	2974-13s	12.1	0.0121	0.0113	2.86	0.0450
COMP 2-UPPER	2974-14s	7.82	0.00782	0.00697	18.5	0.291
Detection Limit		0.070	0.0000700	0.0000700	0.0393	0.000618
<b><u>Procedural Duplicate Results</u></b>						
REF-01	2974-4s r1	21.1	0.0211	0.0202	10.2	0.161
REF-01	2974-4s r2	21.1	0.0211	0.0202	11.2	0.177
	<b>RPD</b>					<b>9%</b>
COMP 4A-UPPER	2974-10s r1	15.4	0.0154	0.0146	23.8	0.375
COMP 4A-UPPER	2974-10s r2	12.8	0.0128	0.0120	16.7	0.262
	<b>RPD</b>					<b>35% *</b>
<b><u>Standard Reference Material Data</u></b>						
1640 Direct 120408		86.3				
Certified Value		85.2				
Percent Recovery		101%				
<b><u>Instrument Check</u></b>						
				Low Level Standard		0.099
				Amount Spiked		0.1
				Percent Recovery, LLS		99%
<b><u>Matrix Spike Results</u></b>						
COMP 1-UPPER	2974-8s	14.3				
COMP 1-UPPER MS	2974-8s MS	63.1				
COMP 1-UPPER MSD	2974-8s MSD	62.1				
Amount Spiked		50.0				
Percent Recovery, MS		98%				
Percent Recovery, MSD		96%				
	<b>RPD</b>					<b>2%</b>



**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
 Sequim, WA 98382  
 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Hg (µg/l)	Hg (µg/ml)	Hg blk corr (µg/ml)	SEM Hg (µg/g)	SEM Hg (µmole/g)
BLANK1	2974 Blank 1	0.00134	0.00000134	0.00000134	0.000751	0.00000375
BLANK2	2974 Blank 2	0.00215	0.00000215	0.00000215	0.00121	0.00000601
	<i>mean blank</i>	<i>0.00175</i>	<i>0.00000175</i>	<i>0.00000175</i>	<i>0.000979</i>	<i>0.00000488</i>
REF-03	2974-1s	0.0123	0.0000123	0.0000106	0.00993	0.0000495
REF-04	2974-2s	0.0213	0.0000213	0.0000196	0.0218	0.000109
REF-05	2974-3s	0.0172	0.0000172	0.0000155	0.00785	0.0000391
REF-01	2974-4s r1	0.0273	0.0000273	0.0000256	0.0129	0.0000643
REF-01	2974-4s r2	0.0256	0.0000256	0.0000239	0.0133	0.0000661
REF-02	2974-5s	0.0294	0.0000294	0.0000277	0.0157	0.0000783
REF-COMP	2974-6s	0.0331	0.0000331	0.0000314	0.0159	0.0000793
COMP 1-LOWER	2974-7s	0.361	0.000361	0.000359	0.137	0.000681
COMP 1-UPPER	2974-8s	0.0219	0.0000219	0.0000202	0.0336	0.000167
COMP 4A-LOWER	2974-9s	0.489	0.000489	0.000487	0.119	0.000591
COMP 4A-UPPER	2974-10s r1	0.0255	0.0000255	0.0000238	0.0388	0.000194
COMP 4A-UPPER	2974-10s r2	0.0269	0.0000269	0.0000252	0.0350	0.000175
COMP 4B-UPPER	2974-11s	0.0129	0.0000129	0.0000112	0.0197	0.0000982
COMP 4B-LOWER	2974-12s	0.796	0.0007960	0.000794	0.225	0.00112
COMP 2-LOWER	2974-13s	0.366	0.000366	0.000364	0.0922	0.000459
COMP 2-UPPER	2974-14s	0.0321	0.0000321	0.0000304	0.0804	0.000401
Detection Limit		0.000154	0.000000154	0.000000154	0.0000864	0.000000431

**Procedural Duplicate Results**

REF-01	2974-4s r1	0.0273	0.0000273	0.0000256	0.0129	0.0000643
REF-01	2974-4s r2	0.0256	0.0000256	0.0000239	0.0133	0.0000661
	<b>RPD</b>					<b>3%</b>
COMP 4A-UPPER	2974-10s r1	0.0255	0.0000255	0.0000238	0.0388	0.000194
COMP 4A-UPPER	2974-10s r2	0.0269	0.0000269	0.0000252	0.0350	0.000175
	<b>RPD</b>					<b>10%</b>

**Standard Reference Material Data**

1641d 121108	1510
Certified Value	1590
Percent Recovery	95%

**Blank Spike Results**

	(µg/l)
Blank	0.00174
Blank Spike	0.00705
Blank Spike Dup	0.00630
Amount Spiked	0.00500
Percent Recovery, MS	106%
Percent Recovery, MSD	91%
<b>RPD</b>	<b>15%</b>

**Matrix Spike Results**

REF-03	2974-1s	0.0123
REF-03 MS	2974-1s MS	0.0608
REF-03 MSD	2974-1s MSD	0.0677
Amount Spiked		0.0500
Percent Recovery, MS		97%
Percent Recovery, MSD		111%
<b>RPD</b>		<b>13%</b>

\*

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
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 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Ni (µg/l)	Ni (µg/ml)	Ni blk corr (µg/ml)	SEM Ni (µg/g)	SEM Ni (µmole/g)
BLANK1	2974 Blank 1	0.404	0.00040	0.00040	0.227	0.00386
BLANK2	2974 Blank 2	0.139	0.00014	0.00014	0.078	0.00132
	<i>mean blank</i>	<i>0.271</i>	<i>0.00027</i>	<i>0.00027</i>	<i>0.152</i>	<i>0.00259</i>
REF-03	2974-1s	7.49	0.00749	0.00722	6.80	0.116
REF-04	2974-2s	7.22	0.00722	0.00695	7.75	0.132
REF-05	2974-3s	18.6	0.0186	0.0183	9.31	0.159
REF-01	2974-4s r1	13.2	0.0132	0.0129	6.51	0.111
REF-01	2974-4s r2	12.0	0.0120	0.0117	6.51	0.111
REF-02	2974-5s	13.3	0.0133	0.0130	7.41	0.126
REF-COMP	2974-6s	15.0	0.0150	0.0147	7.48	0.127
COMP 1-LOWER	2974-7s	6.34	0.00634	0.00607	2.31	0.0393
COMP 1-UPPER	2974-8s	5.09	0.00509	0.00482	8.03	0.137
COMP 4A-LOWER	2974-9s	9.12	0.00912	0.00885	2.15	0.0367
COMP 4A-UPPER	2974-10s r1	5.55	0.00555	0.00528	8.63	0.147
COMP 4A-UPPER	2974-10s r2	6.36	0.00636	0.00609	8.48	0.144
COMP 4B-UPPER	2974-11s	4.75	0.00475	0.00448	7.91	0.135
COMP 4B-LOWER	2974-12s	6.41	0.00641	0.00614	1.74	0.0296
COMP 2-LOWER	2974-13s	8.89	0.00889	0.00862	2.18	0.0372
COMP 2-UPPER	2974-14s	3.73	0.00373	0.00346	9.17	0.156

Detection Limit 0.081 0.0000810 0.0000810 0.04542 0.000774

**Procedural Duplicate Results**

REF-01	2974-4s r1	13.2	0.0132	0.0129	6.51	0.111
REF-01	2974-4s r2	12.0	0.0120	0.0117	6.51	0.111

RPD 0%

COMP 4A-UPPER	2974-10s r1	5.55	0.00555	0.00528	8.63	0.147
COMP 4A-UPPER	2974-10s r2	6.36	0.00636	0.00609	8.48	0.144

RPD 2%

**Standard Reference Material Data**

1640 Direct 120408	27.2
Certified Value	27.4
Percent Recovery	99%

**Instrument Check**

Low Level Standard	0.100
Amount Spiked	0.1
Percent Recovery, LLS	100%

**Matrix Spike Results**

COMP 1-UPPER	2974-8s	5.09
COMP 1-UPPER MS	2974-8s MS	7.27
COMP 1-UPPER MSD	2974-8s MSD	7.08
Amount Spiked	2.00	
Percent Recovery, MS	109%	
Percent Recovery, MSD	100%	

RPD 9%

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
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 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Pb (µg/l)	Pb µg/ml	Pb blk corr (µg/ml)	SEM Pb (µg/g)	SEM Pb (µmole/g)
BLANK1	2974 Blank 1	0.115	0.000115	0.000115	0.0642	0.000310
BLANK2	2974 Blank 2	0.0490	0.000049	0.000049	0.0275	0.000133
	<i>mean blank</i>	<i>0.0818</i>	<i>0.0000818</i>	<i>0.0000818</i>	<i>0.0459</i>	<i>0.000221</i>
REF-03	2974-1s	20.4	0.0204	0.0203	19.2	0.0924
REF-04	2974-2s	24.4	0.0244	0.0243	27.1	0.131
REF-05	2974-3s	68.0	0.0680	0.0680	34.5	0.166
REF-01	2974-4s r1	32.3	0.0323	0.0322	16.3	0.0786
REF-01	2974-4s r2	31.7	0.0317	0.0316	17.5	0.0847
REF-02	2974-5s	33.0	0.0330	0.0329	18.7	0.0903
REF-COMP	2974-6s	44.4	0.0444	0.0443	22.5	0.109
COMP 1-LOWER	2974-7s	20.5	0.0205	0.0204	7.74	0.0374
COMP 1-UPPER	2974-8s	16.3	0.0163	0.0162	27.1	0.131
COMP 4A-LOWER	2974-9s	49.7	0.0497	0.0496	12.1	0.0583
COMP 4A-UPPER	2974-10s r1	20.6	0.0206	0.0205	33.5	0.162
COMP 4A-UPPER	2974-10s r2	23.7	0.0237	0.0236	32.9	0.159
COMP 4B-UPPER	2974-11s	17.5	0.0175	0.0174	30.7	0.148
COMP 4B-LOWER	2974-12s	64.5	0.0645	0.0645	18.3	0.0882
COMP 2-LOWER	2974-13s	25.7	0.0257	0.0256	6.48	0.0313
COMP 2-UPPER	2974-14s	10.5	0.0105	0.0104	27.5	0.133

Detection Limit 0.0200 0.0000200 0.0000200 0.01122 0.0000541

**Procedural Duplicate Results**

REF-01	2974-4s r1	32.3	0.0323	0.0322	16.3	0.0786
REF-01	2974-4s r2	31.7	0.0317	0.0316	17.5	0.0847

**RPD 7%**

COMP 4A-UPPER	2974-10s r1	20.6	0.0206	0.0205	33.5	0.162
COMP 4A-UPPER	2974-10s r2	23.7	0.0237	0.0236	32.9	0.159

**RPD 2%**

**Standard Reference Material Data**

1640 Direct 120408	25.0
Certified Value	27.9
Percent Recovery	90%

**Instrument Check**

Low Level Standard	0.106
Amount Spiked	0.1
Percent Recovery, LLS	106%

**Matrix Spike Results**

COMP 1-UPPER	2974-8s	16.3
COMP 1-UPPER MS	2974-8s MS	64.7
COMP 1-UPPER MSD	2974-8s MSD	64.9
Amount Spiked	50.0	
Percent Recovery, MS	97%	
Percent Recovery, MSD	97%	
<b>RPD</b>	<b>0%</b>	

**BATTELLE MARINE SCIENCES LABORATORY**

1529 W. Sequim Bay Road  
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 (360) 681-3650

**Project:** NewFields Juneau  
**File #:** 2974

SAMPLE ID SPONSOR	SAMPLE ID BATTELLE	Zn (µg/l)	Zn µg/ml	Zn blk corr (µg/ml)	SEM Zn (µg/g)	SEM Zn (µmole/g)
BLANK1	2974 Blank 1	1.49	0.00149	0.00149	0.836	0.0128
BLANK2	2974 Blank 2	1.12	0.00112	0.00112	0.629	0.00963
	<i>mean blank</i>	1.31	0.00131	0.00131	0.733	0.0112
REF-03	2974-1s	33.4	0.0334	0.0321	30.2	0.462
REF-04	2974-2s	34.9	0.0349	0.0336	37.5	0.573
REF-05	2974-3s	107	0.107	0.1052	53.4	0.817
REF-01	2974-4s r1	56.9	0.0569	0.0556	28.1	0.429
REF-01	2974-4s r2	55.2	0.0552	0.0539	29.9	0.458
REF-02	2974-5s	59.4	0.0594	0.0581	33.0	0.505
REF-COMP	2974-6s	71.4	0.0714	0.0701	35.6	0.545
COMP 1-LOWER	2974-7s	36.7	0.0367	0.0354	13.5	0.206
COMP 1-UPPER	2974-8s	31.3	0.0313	0.0300	50.0	0.765
COMP 4A-LOWER	2974-9s	71.6	0.0716	0.0703	17.1	0.262
COMP 4A-UPPER	2974-10s r1	38.2	0.0382	0.0369	60.3	0.923
COMP 4A-UPPER	2974-10s r2	42.4	0.0424	0.0411	57.2	0.875
COMP 4B-UPPER	2974-11s	30.2	0.0302	0.0288	50.9	0.779
COMP 4B-LOWER	2974-12s	54.5	0.0545	0.0532	15.1	0.231
COMP 2-LOWER	2974-13s	58.4	0.0584	0.0571	14.4	0.221
COMP 2-UPPER	2974-14s	28.5	0.0285	0.0271	71.9	1.10

Detection Limit 0.140 0.000140 0.000140 0.0785 0.00120

**Procedural Duplicate Results**

REF-01	2974-4s r1	56.9	0.0569	0.0556	28.1	0.429
REF-01	2974-4s r2	55.2	0.0552	0.0539	29.9	0.458

**RPD 6%**

COMP 4A-UPPER	2974-10s r1	38.2	0.0382	0.0369	60.3	0.923
COMP 4A-UPPER	2974-10s r2	42.4	0.0424	0.0411	57.2	0.875

**RPD 5%**

**Standard Reference Material Data**

1640 Direct 120408	54.5
Reference Value	53.2
Percent Recovery	102%

**Instrument Check**

Low Level Standard	0.099
Amount Spiked	0.1
Percent Recovery, LLS	99%

**Matrix Spike Results**

COMP 1-UPPER	2974-8s	31.3
COMP 1-UPPER MS	2974-8s MS	224
COMP 1-UPPER MSD	2974-8s MSD	230
Amount Spiked	200	
Percent Recovery, MS	96%	
Percent Recovery, MSD	99%	
<b>RPD</b>	<b>3%</b>	

## QA/QC SUMMARY

**PROJECT:** NewFields Juneau Tissues  
**PARAMETER:** Total Mercury and Lipids  
**LABORATORY:** Battelle/Marine Sciences Laboratory, Sequim, Washington  
**MATRIX:** Tissue

**SAMPLE CUSTODY:** Eighty tissue samples were received on 2/10/09. All samples were received in good condition. Cooler temperature upon arrival was -4.6°C, which is within the temperature parameters set forth in the appendix to EPA Method 1631e for tissue samples. All samples were immediately freeze-dried and analyzed on a dry weight basis. Wet weight concentrations are calculated by multiplying the dry weight concentration by the % dry weight. All data have been reported on a wet weight (as received) basis.

### QA/QC DATA QUALITY OBJECTIVES:

<u>Analyte</u>	<u>Analytical Method</u>	<u>Range of Recovery</u>	<u>Relative Precision</u>	<u>Achieved Detection Limit (µg/g ww or %)</u>
Mercury	CVAA (EPA 7473)	80-120%	±20%	0.000839
Lipids	Bligh-Dyer, 1959	NA	NA	0.05%

**HOLDING TIMES:** All analyses were conducted within the target holding time of 90 days for mercury and 6 months for lipids.

**DETECTION LIMITS:** Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

**BLANKS** An analytical blank was determined for all analytes. No mercury or lipids were detected in any of the blanks.

**BLANK SPIKES:** Two blank spikes were prepared with each analytical batch for total Hg. Recoveries were within the data quality objectives listed in the table above.

**MATRIX SPIKES:** Two matrix spike/matrix spike duplicate pairs were prepared with each analytical batch for total Hg. Recoveries were within the data quality objectives listed in the table above.

**REPLICATES:** Four samples were analyzed in duplicate for total Hg and lipids. Precision is reported by calculating the relative percent difference (RPD) of replicate results. All RPDs were within the method acceptance criteria limits listed above.

**LCS/SRM SAMPLES:** A laboratory control sample (LCS) or standard reference material (SRM), in this case NRC DOLT-3, was prepared and analyzed in each analytical batch for total mercury. Recoveries were 99% to 103% of the known value, which meets the data quality criteria for accuracy. No SRM exists for lipids analysis.

## QA/QC SUMMARY

**BLANKS:** Total Hg was not detected in any of the three method blanks at a concentration greater than the achieved detection limit. MeHg was not detected in any of the three method blanks at a concentration greater than the achieved detection limit. None of the data were blank corrected.

**BLANK SPIKES (OPR/LCS):** Two blank spike (OPR) samples were analyzed for each analyte. All recoveries were within the criteria limits specified in the table above.

**MATRIX SPIKES:** Two matrix spike/matrix spike duplicate pairs were analyzed for total Hg and MeHg. All recoveries were within the criteria limits specified above. The RPDs on the MS/MSD pairs were within the method acceptance criteria for precision.

**REPLICATES:** One sample was analyzed in duplicate for each analyte. Precision is reported by calculating the relative percent difference (RPD) of replicate results. The RPDs were within the method acceptance criteria limits for total mercury and MeHg.

**SRM:** One digested sample of the SRM 1641d, a spiked water, was analyzed. Recovery was 94% of the certified value for total Hg, which is within the criteria limits of 77-123%. Because no SRM for MeHg in water exists, a diluted sample of the tissue SRM DORM-2 was analyzed for MeHg. Recovery was 116% of the certified value for MeHg, which is within the criteria limits of 67-133% of the certified value.

Data Release:

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Brenda Lasorsa  
Project Manager

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Carolynn Suslick  
Quality Assurance Reviewer

### Percent Dry Weight Calculations

Project: Newfields Juneau  
 Central File #: 2974  
 Analyst: BKL

Date: 2-13-2009  
 Balance: 5  
 Matrix: tissue

Battelle Sample ID	Tare Weight (g)	Tare+Wet Weight (g)	Tare+Dry Weight (g)	Wet Weight (g)	Dry Weight (g)	% Dry Weight	% Wet Weight
2974-15	15.406	40.177	19.854	24.771	4.448	17.96	82.04
2974-16	15.444	42.844	20.831	27.400	5.387	19.66	80.34
2974-17	15.350	39.606	20.092	24.256	4.742	19.55	80.45
2974-18	15.412	40.077	20.146	24.665	4.734	19.19	80.81
2974-19	15.396	34.353	18.965	18.957	3.569	18.83	81.17
2974-20	15.413	40.891	20.232	25.478	4.819	18.91	81.09
2974-21	15.356	40.647	20.641	25.291	5.285	20.90	79.10
2974-22	15.335	42.742	21.699	27.407	6.364	23.22	76.78
2974-23	15.427	36.926	19.592	21.499	4.165	19.37	80.63
2974-24	15.350	38.439	19.804	23.089	4.454	19.29	80.71
2974-25	15.312	44.076	20.811	28.764	5.499	19.12	80.88
2974-26	15.414	42.367	20.732	26.953	5.318	19.73	80.27
2974-27	15.404	39.640	20.151	24.236	4.747	19.59	80.41
2974-28	15.414	36.745	19.549	21.331	4.135	19.38	80.62
2974-29	15.425	41.593	20.492	26.168	5.067	19.36	80.64
2974-30	15.429	34.492	19.083	19.063	3.654	19.17	80.83
2974-31	15.422	38.949	19.924	23.527	4.502	19.14	80.86
2974-32	15.434	30.255	18.010	14.821	2.576	17.38	82.62
2974-33	15.381	39.647	20.136	24.266	4.755	19.60	80.40
2974-34	15.358	40.216	20.146	24.858	4.788	19.26	80.74
2974-35	15.416	40.520	20.059	25.104	4.643	18.50	81.50
2974-36	15.335	36.381	19.404	21.046	4.069	19.33	80.67
2974-37	15.336	40.492	20.408	25.156	5.072	20.16	79.84
2974-38	15.414	46.505	21.380	31.091	5.966	19.19	80.81
2974-39	15.385	41.670	20.435	26.285	5.050	19.21	80.79
2974-40	15.428	39.708	20.055	24.280	4.627	19.06	80.94
2974-41	15.372	36.996	19.412	21.624	4.040	18.68	81.32
2974-42	15.435	39.130	19.941	23.695	4.506	19.02	80.98
2974-43	15.410	35.412	19.038	20.002	3.628	18.14	81.86
2974-44	15.402	33.178	18.750	17.776	3.348	18.83	81.17
2974-45	15.433	40.437	20.224	25.004	4.791	19.16	80.84
2974-46	15.423	45.540	20.815	30.117	5.392	17.90	82.10
2974-47	15.324	38.844	19.760	23.520	4.436	18.86	81.14
2974-48	15.401	43.018	20.720	27.617	5.319	19.26	80.74
2974-49	15.356	35.886	19.087	20.530	3.731	18.17	81.83
2974-50	15.406	38.129	19.649	22.723	4.243	18.67	81.33
2974-51	15.446	38.247	19.707	22.801	4.261	18.69	81.31
2974-52	15.325	37.694	19.345	22.369	4.020	17.97	82.03

## Percent Dry Weight Calculations

Project: Newfields Juneau  
 Central File #: 2974  
 Analyst: BKL

Date: 2-13-2009  
 Balance: 5  
 Matrix: tissue

Battelle Sample ID	Tare Weight (g)	Tare+Wet Weight (g)	Tare+Dry Weight (g)	Wet Weight (g)	Dry Weight (g)	% Dry Weight	% Wet Weight
2974-53	15.373	42.672	20.390	27.299	5.017	18.38	81.62
2974-54	15.385	43.145	20.557	27.760	5.172	18.63	81.37
2974-55	15.399	23.622	17.038	8.223	1.639	19.93	80.07
2974-56	15.415	26.327	17.365	10.912	1.950	17.87	82.13
2974-57	15.448	25.231	17.278	9.783	1.830	18.71	81.29
2974-58	15.324	27.274	17.576	11.950	2.252	18.85	81.15
2974-59	15.354	23.661	17.068	8.307	1.714	20.63	79.37
2974-60	15.324	21.922	16.619	6.598	1.295	19.63	80.37
2974-61	15.340	21.748	16.619	6.408	1.279	19.96	80.04
2974-62	15.378	24.042	17.017	8.664	1.639	18.92	81.08
2974-63	15.425	22.498	16.826	7.073	1.401	19.81	80.19
2974-64	15.359	25.276	17.219	9.917	1.860	18.76	81.24
2974-65	15.400	23.061	16.802	7.661	1.402	18.30	81.70
2974-66	15.411	24.481	17.202	9.070	1.791	19.75	80.25
2974-67	15.380	24.212	17.022	8.832	1.642	18.59	81.41
2974-68	15.429	24.585	17.096	9.156	1.667	18.21	81.79
2974-69	15.433	23.718	17.096	8.285	1.663	20.07	79.93
2974-70	15.330	22.834	16.799	7.504	1.469	19.58	80.42
2974-71	15.426	24.925	17.327	9.499	1.901	20.01	79.99
2974-72	15.404	24.287	17.238	8.883	1.834	20.65	79.35
2974-73	15.422	23.039	16.845	7.617	1.423	18.68	81.32
2974-74	15.380	23.229	16.897	7.849	1.517	19.33	80.67
2974-75	15.416	24.265	17.039	8.849	1.623	18.34	81.66
2974-76	15.379	24.747	17.295	9.368	1.916	20.45	79.55
2974-77	15.357	26.222	17.306	10.865	1.949	17.94	82.06
2974-78	15.354	24.191	17.301	8.837	1.947	22.03	77.97
2974-79	15.436	23.576	16.922	8.140	1.486	18.26	81.74
2974-80	15.285	22.726	16.657	7.441	1.372	18.44	81.56
2974-81	15.373	24.198	17.140	8.825	1.767	20.02	79.98
2974-82	15.426	24.003	16.965	8.577	1.539	17.94	82.06
2974-83	15.366	25.353	17.313	9.987	1.947	19.50	80.50
2974-84	15.361	21.754	16.666	6.393	1.305	20.41	79.59
2974-85	15.403	23.098	16.810	7.695	1.407	18.28	81.72
2974-86	15.683	28.057	18.081	12.374	2.398	19.38	80.62
2974-87	15.385	25.420	17.217	10.035	1.832	18.26	81.74
2974-88	15.426	26.709	17.466	11.283	2.040	18.08	81.92
2974-89	15.403	25.624	17.452	10.221	2.049	20.05	79.95
2974-90	15.335	23.472	16.947	8.137	1.612	19.81	80.19



### Percent Dry Weight Calculations

Project: Newfields Juneau  
Central File #: 2974  
Analyst: BKL

Date: 2-13-2009  
Balance: 5  
Matrix: tissue

Battelle Sample ID	Tare Weight (g)	Tare+Wet Weight (g)	Tare+Dry Weight (g)	Wet Weight (g)	Dry Weight (g)	% Dry Weight	% Wet Weight
2974-91	15.334	26.451	17.366	11.117	2.032	18.28	81.72
2974-92	15.435	24.538	17.260	9.103	1.825	20.05	79.95
2974-93	15.438	28.760	17.897	13.322	2.459	18.46	81.54
2974-94	15.405	25.750	17.491	10.345	2.086	20.16	79.84

Analyst: \_\_\_\_\_

Date: \_\_\_\_\_

cc: Project Manager/Central File  
Login File

2974

**SAMPLE LOGIN**  
(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 02/10/09  
Batch: 3

PROJECT: New Fields-Douglas Harbor

<b>SPONSOR CODE</b>	<b>Site Description</b>	<b>BATTELLE CODE</b>	<b>MATRIX</b>	<b>STORAGE LOCATION</b>	<b>PARAMETERS REQUESTED</b>	<b>COLLECTION DATE</b>	<b>INITIALS</b>
Control Rep 3	na	2974-15	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Rep 4	na	2974-16	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Rep 3	na	2974-17	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Rep 3	na	2974-18	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Rep 4	na	2974-19	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Rep 2	na	2974-20	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Rep 5	na	2974-21	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Rep 3	na	2974-22	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Rep 5	na	2974-23	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 1	na	2974-24	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 5	na	2974-25	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 5	na	2974-26	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 3	na	2974-27	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 3	na	2974-28	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 2	na	2974-29	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 4	na	2974-30	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 2	na	2974-31	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 1	na	2974-32	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 2	na	2974-33	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 2	na	2974-34	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM

cc: Project Manager/Central File  
Login File

2974

**SAMPLE LOGIN**  
(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 02/10/09  
Batch: 3

PROJECT: New Fields-Douglas Harbor

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
Ref Comp Rep 1	na	2974-35	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 3	na	2974-36	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 1	na	2974-37	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 5	na	2974-38	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 1	na	2974-39	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 4	na	2974-40	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref comp Rep 4	na	2974-41	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 2	na	2974-42	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 2	na	2974-43	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 3	na	2974-44	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 1	na	2974-45	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 4	na	2974-46	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 4	na	2974-47	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 1	na	2974-48	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 5	na	2974-49	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 5	na	2974-50	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 2	na	2974-51	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 4	na	2974-52	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 1	na	2974-53	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 5	na	2974-54	Macoma	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM

cc: Project Manager/Central File  
Login File

2974

**SAMPLE LOGIN**  
(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 02/10/09  
Batch: 3

PROJECT: New Fields-Douglas Harbor

<b>SPONSOR CODE</b>	<b>Site Description</b>	<b>BATTELLE CODE</b>	<b>MATRIX</b>	<b>STORAGE LOCATION</b>	<b>PARAMETERS REQUESTED</b>	<b>COLLECTION DATE</b>	<b>INITIALS</b>
Control Rep 3	na	2974-55	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Rep 4	na	2974-56	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Rep 3	na	2974-57	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Rep 3	na	2974-58	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Rep 4	na	2974-59	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Rep 2	na	2974-60	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Rep 5	na	2974-61	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Rep 3	na	2974-62	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Rep 5	na	2974-63	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 1	na	2974-64	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 5	na	2974-65	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 5	na	2974-66	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 3	na	2974-67	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 3	na	2974-68	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 2	na	2974-69	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 4	na	2974-70	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 2	na	2974-71	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 1	na	2974-72	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 2	na	2974-73	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 2	na	2974-74	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM

cc: Project Manager/Central File  
Login File

2974

**SAMPLE LOGIN**  
(SOP# MSL-A-001)

Project Manager: Lasorsa  
Date Received: 02/10/09  
Batch: 3

PROJECT: New Fields-Douglas Harbor

<b>SPONSOR CODE</b>	<b>Site Description</b>	<b>BATTELLE CODE</b>	<b>MATRIX</b>	<b>STORAGE LOCATION</b>	<b>PARAMETERS REQUESTED</b>	<b>COLLECTION DATE</b>	<b>INITIALS</b>
Ref Comp Rep 1	na	2974-75	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref Comp Rep 3	na	2974-76	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 1	na	2974-77	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 5	na	2974-78	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4B Comp Rep 1	na	2974-79	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 4	na	2974-80	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref comp Rep 4	na	2974-81	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 2	na	2974-82	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 2	na	2974-83	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 3	na	2974-84	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 1	na	2974-85	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 4	na	2974-86	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Lower Comp Rep 4	na	2974-87	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 1	na	2974-88	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Control Rep 5	na	2974-89	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 2 Comp Rep 5	na	2974-90	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Ref X Rep 2	na	2974-91	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 4A Comp Rep 4	na	2974-92	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 1	na	2974-93	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM
Area 1 Comp Rep 5	na	2974-94	Nephtys	Deep Freezer B-1	Total Hg, Lipids	02/07/09	MLFM

**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
 Sequim, Washington 98382-9099  
 360/681-3650

**NewFields Juneau**  
 MERCURY SPECIATION IN CLAM AND WORM TISSUE  
 (Samples Received 2/10/09)

MSL Code	Client ID		Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
2974-53	Area 1 Comp Rep 1	Macoma	02/07/09	18.4	022009LIP	0.84	022409DMA	0.0326
2974-42	Area 1 Comp Rep 2	Macoma	02/07/09	19.0	022009LIP	0.81	022409DMA	0.0291
2974-54	Area 1 Comp Rep 5	Macoma	02/07/09	18.6	022009LIP	0.83	022409DMA	0.0248
2974-17	Area 1 Rep 3	Macoma	02/07/09	19.5	021809LIP	0.78	022009DMA	0.0268
2974-16	Area 1 Rep 4	Macoma	02/07/09	19.7	021809LIP	0.54	022009DMA	0.0244
2974-48	Area 2 Comp Rep 1	Macoma	02/07/09	19.3	022009LIP	0.92	022409DMA	0.0518
2974-31	Area 2 Comp Rep 2	Macoma	02/07/09	19.1	021809LIP	0.81	022009DMA	0.0534
2974-50	Area 2 Comp Rep 5	Macoma	02/07/09	18.7	022009LIP	0.82	022409DMA	0.0666
2974-18	Area 2 Rep 3	Macoma	02/07/09	19.2	021809LIP	0.70	022009DMA	0.0521
2974-19	Area 2 Rep 4	Macoma	02/07/09	18.8	021809LIP	0.81	022009DMA	0.0404
2974-45	Area 4A Comp Rep 1	Macoma	02/07/09	19.2	022009LIP	0.92	022409DMA	0.0388
2974-44	Area 4A Comp Rep 3	Macoma	02/07/09	18.8	022009LIP	0.76	022409DMA	0.0424
2974-52	Area 4A Comp Rep 4	Macoma	02/07/09	18.0	022009LIP	0.73	022409DMA	0.0372
2974-20	Area 4A Rep 2	Macoma	02/07/09	18.9	021809LIP	0.80	022009DMA	0.0459
2974-21	Area 4A Rep 5	Macoma	02/07/09	20.9	021809LIP	0.57	022009DMA	0.0311
2974-39	Area 4B Comp Rep 1	Macoma	02/07/09	19.2	022009LIP	1.11	022409DMA	0.0329
2974-33	Area 4B Comp Rep 2	Macoma	02/07/09	19.6	021809LIP	0.73	022009DMA	0.0512
2974-30	Area 4B Comp Rep 4	Macoma	02/07/09	19.2	021809LIP	0.87	022009DMA	0.0471
2974-22	Area 4B Rep 3	Macoma	02/07/09	23.2	021809LIP	0.62	022009DMA	0.0374
2974-23	Area 4B Rep 5	Macoma	02/07/09	19.4	021809LIP	0.89	022009DMA	0.0404
2974-37	Control Rep 1	Macoma	02/07/09	20.2	022009LIP	0.89	022409DMA	0.0169
2974-43	Control Rep 2	Macoma	02/07/09	18.1	022009LIP	0.77	022409DMA	0.00950
2974-15	Control Rep 3	Macoma	02/07/09	18.0	021809LIP	0.68	022009DMA	0.00999
2974-46	Control Rep 4	Macoma	02/07/09	17.9	022009LIP	0.90	022409DMA	0.0108
2974-49	Control Rep 5	Macoma	02/07/09	18.2	022009LIP	0.99	022409DMA	0.0121
2974-24 r1	Lower Comp Rep 1	Macoma	02/07/09	19.3	021809LIP	0.81	022009DMA	0.206
2974-24 r2	Lower Comp Rep 1	Macoma	02/07/09	19.3	NA	NA	022009DMA	0.220
2974-29	Lower Comp Rep 2	Macoma	02/07/09	19.4	021809LIP	1.03	022009DMA	0.235
2974-27	Lower Comp Rep 3	Macoma	02/07/09	19.6	021809LIP	0.80	022009DMA	0.242
2974-47	Lower Comp Rep 4	Macoma	02/07/09	18.9	022009LIP	0.86	022409DMA	0.199
2974-25 r1	Lower Comp Rep 5	Macoma	02/07/09	19.1	021809LIP	0.39	022009DMA	0.186
2974-25 r2	Lower Comp Rep 5	Macoma	02/07/09	19.1	021809LIP	0.36	NA	NA
2974-35	Ref Comp Rep 1	Macoma	02/07/09	18.5	022009LIP	0.96	022409DMA	0.0186
2974-34	Ref Comp Rep 2	Macoma	02/07/09	19.3	021809LIP	0.83	022009DMA	0.0159
2974-36	Ref Comp Rep 3	Macoma	02/07/09	19.3	022009LIP	0.95	022409DMA	0.0141
2974-41	Ref comp Rep 4	Macoma	02/07/09	18.7	022009LIP	0.80	022409DMA	0.0155
2974-26	Ref Comp Rep 5	Macoma	02/07/09	19.7	021809LIP	0.74	022009DMA	0.0148
2974-32	Ref X Rep 1	Macoma	02/07/09	17.4	021809LIP	0.93	022009DMA	0.0168
2974-51	Ref X Rep 2	Macoma	02/07/09	18.7	022009LIP	0.93	022409DMA	0.0133
2974-28	Ref X Rep 3	Macoma	02/07/09	19.4	021809LIP	0.80	022009DMA	0.0140
2974-40 r1	Ref X Rep 4	Macoma	02/07/09	19.1	022009LIP	0.77	022409DMA	0.0159
2974-40 r2	Ref X Rep 4	Macoma	02/07/09	19.1	NA	NA	022409DMA	0.0161
2974-38 r1	Ref X Rep 5	Macoma	02/07/09	19.2	022009LIP	0.71	022409DMA	0.0127
2974-38 r2	Ref X Rep 5	Macoma	02/07/09	19.2	022009LIP	0.70	NA	NA
2974-93 r1	Area 1 Comp Rep 1	Nephtys	02/07/09	18.5	022509LIP	1.01	021909DMA	0.00947
2974-93 r2	Area 1 Comp Rep 1	Nephtys	02/07/09	18.5	022509LIP	1.02	NA	NA
2974-82	Area 1 Comp Rep 2	Nephtys	02/07/09	17.9	022509LIP	0.64	021909DMA	0.00782



**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
Sequim, Washington 98382-9099  
360/681-3650

**NewFields Juneau**  
MERCURY SPECIATION IN CLAM AND WORM TISSUE  
(Samples Received 2/10/09)

MSL Code	Client ID	Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
Blank r3			19.2			021809DMA	0.000839 U
Blank r1			19.2	022009LIP	0.05U	021909DMA	0.000839 U
Blank r2			19.2			021909DMA	0.000839 U
Blank r3			19.2			021909DMA	0.000839 U
Blank r1			19.2	022309LIP	0.05U	022009DMA	0.000839 U
Blank r2			19.2			022009DMA	0.000839 U
Blank r3			19.2			022009DMA	0.000839 U
Blank r1			19.2	022509LIP	0.05U	022409DMA	0.000839 U
Blank r2			19.2			022409DMA	0.000839 U
Blank r3			19.2			022409DMA	0.000839 U



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**NewFields Juneau**  
 MERCURY SPECIATION IN CLAM AND WORM TISSUE  
 (Samples Received 2/10/09)

MSL Code	Client ID	Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
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**STANDARD REFERENCE MATERIALS**

DOLT-3						021809DMA	3.48
DOLT-3						021909DMA	3.43
DOLT-3						022009DMA	3.33
DOLT-3						022409DMA	3.33
	certified value						3.37
	range						±0.028
	percent recovery					021809DMA	103%
						021909DMA	102%
						022009DMA	99%
						022409DMA	99%

**BLANK SPIKE RESULTS**

Amount Spiked							0.344
Chicken Blank						021809DMA	0.000839 U
Chicken Blank Spike						021809DMA	0.352
Amount Recovered							0.352
Percent Recovery							102%

Amount Spiked							0.227
Chicken Blank						021809DMA	0.000839 U
Chicken Blank MS						021809DMA	0.235
Amount Recovered							0.235
Percent Recovery							104%

Amount Spiked							0.293
Chicken Blank						021909DMA	0.000839 U
Chicken Blank MS						021909DMA	0.294
Amount Recovered							0.294
Percent Recovery							100%

Amount Spiked							0.268
Chicken Blank						021909DMA	0.000839 U
Chicken Blank Spike						021909DMA	0.265
Amount Recovered							0.265
Percent Recovery							99%

Amount Spiked							0.217
Chicken Blank						022009DMA	0.000839 U
Chicken Blank MS						022009DMA	0.223
Amount Recovered							0.223
Percent Recovery							103%

**BATTELLE MARINE SCIENCE LABORATORIES**

1529 West Sequim Bay Road  
 Sequim, Washington 98382-9099  
 360/681-3650

**NewFields Juneau**  
 MERCURY SPECIATION IN CLAM AND WORM TISSUE  
 (Samples Received 2/10/09)

MSL Code	Client ID	Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
Amount Spiked							0.197
Chicken Blank						022009DMA	0.000839 U
Chicken Blank Spike						022009DMA	0.201
Amount Recovered							0.201
Percent Recovery							102%
<b><u>BLANK SPIKE RESULTS</u></b>							
Amount Spiked							0.271
Chicken Blank						022409DMA	0.000839 U
Chicken Blank MS						022409DMA	0.263
Amount Recovered							0.263
Percent Recovery							97%
Amount Spiked							0.327
Chicken Blank						022409DMA	0.000839 U
Chicken Blank Spike						022409DMA	0.314
Amount Recovered							0.314
Percent Recovery							96%
<b><u>MATRIX SPIKE RESULTS</u></b>							
Amount Spiked							0.0428
2974-15 Control Rep 3		Macoma	02/07/09	18.0		022009DMA	0.00999
2974-15 MS							0.0553
Amount Recovered							0.0453
Percent Recovery							106%
Amount Spiked							0.0459
2974-15 Control Rep 3		Macoma	02/07/09	18.0		022009DMA	0.00999
2974-15 MSD							0.0576
Amount Recovered							0.0476
Percent Recovery							104%
RPD							2%
Amount Spiked							0.0553
2974-28 Ref X Rep 3		Macoma	02/07/09	19.4		022009DMA	0.0140
2974-28 MS							0.0716
Amount Recovered							0.0576
Percent Recovery							104%
Amount Spiked							0.0545
2974-28 Ref X Rep 3		Macoma	02/07/09	19.4		022009DMA	0.0140
2974-28 MSD							0.0695
Amount Recovered							0.0555
Percent Recovery							102%

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RPD							2%

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MSL Code	Client ID		Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
<b><u>MATRIX SPIKE RESULTS</u></b>								
Amount Spiked								0.0703
2974-38	Ref X Rep 5	Macoma	02/07/09	19.2			022409DMA	0.0127
2974-38 MS								0.0818
Amount Recovered								0.0691
Percent Recovery								98%
Amount Spiked								0.0689
2974-38	Ref X Rep 5	Macoma	02/07/09	19.2			022409DMA	0.0127
2974-38 MSD								0.0785
Amount Recovered								0.0658
Percent Recovery								96%
RPD								2%
Amount Spiked								0.0759
2974-50	Area 2 Comp Rep 5	Macoma	02/07/09	18.7			022409DMA	0.0666
2974-50 MS								0.139
Amount Recovered								0.0724
Percent Recovery								95%
Amount Spiked								0.0690
2974-50	Area 2 Comp Rep 5	Macoma	02/07/09	18.7			022409DMA	0.0666
2974-50 MSD								0.132
Amount Recovered								0.0654
Percent Recovery								95%
RPD								0%
Amount Spiked								0.0566
2974-58	Area 2 Rep 3	Nephtys	02/07/09	18.8			021809DMA	0.00877
2974-58 MS								0.0641
Amount Recovered								0.0553
Percent Recovery								98%
Amount Spiked								0.0538
2974-58	Area 2 Rep 3	Nephtys	02/07/09	18.8			021809DMA	0.00877
2974-58 MSD								0.0634
Amount Recovered								0.0546
Percent Recovery								101%
RPD								3%

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 (Samples Received 2/10/09)

MSL Code	Client ID		Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
<b><u>MATRIX SPIKE RESULTS</u></b>								
Amount Spiked								
2974-71	Area 2 Comp Rep 2	Nephtys	02/07/09	20.0			021809DMA	0.0686
2974-71 MS								0.0135
2974-71 MS								0.0804
Amount Recovered								
Percent Recovery								
								0.0669
								98%
Amount Spiked								
2974-71	Area 2 Comp Rep 2	Nephtys	02/07/09	20.0			021809DMA	0.0672
2974-71 MSD								0.0135
2974-71 MSD								0.0804
Amount Recovered								
Percent Recovery								
								0.0669
								100%
RPD								
								2%
Amount Spiked								
2974-79	Area 4B Comp Rep 1	Nephtys	02/07/09	18.3			021909DMA	0.0516
2974-79 MS								0.00903
2974-79 MS								0.0586
Amount Recovered								
Percent Recovery								
								0.0496
								96%
Amount Spiked								
2974-79	Area 4B Comp Rep 1	Nephtys	02/07/09	18.3			021909DMA	0.0520
2974-79 MSD								0.00903
2974-79 MSD								0.0613
Amount Recovered								
Percent Recovery								
								0.0523
								101%
RPD								
								5%
Amount Spiked								
2974-88	Area 2 Comp Rep 1	Nephtys	02/07/09	18.1			021909DMA	0.0487
2974-88 MS								0.00961
2974-88 MS								0.0592
Amount Recovered								
Percent Recovery								
								0.0496
								102%
Amount Spiked								
2974-88	Area 2 Comp Rep 1	Nephtys	02/07/09	18.1			021909DMA	0.0552
2974-88 MSD								0.00961
2974-88 MSD								0.0653
Amount Recovered								
Percent Recovery								
								0.0557
								101%
RPD								
								1%

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MSL Code	Client ID		Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
<b>REPLICATE ANALYSIS RESULTS</b>								
2974-24 r1	Lower Comp Rep 1	Macoma	02/07/09	19.3	021809LIP	0.81	022009DMA	0.206
2974-24 r2	Lower Comp Rep 1	Macoma	02/07/09	19.3	NA	NA	022009DMA	0.220
RPD						NA		7%
2974-25 r1	Lower Comp Rep 5	Macoma	02/07/09	19.1	021809LIP	0.39	022009DMA	0.186
2974-25 r2	Lower Comp Rep 5	Macoma	02/07/09	19.1	021809LIP	0.36	NA	NA
RPD						8%		NA
2974-38 r1	Ref X Rep 5	Macoma	02/07/09	19.2	022009LIP	0.71	022409DMA	0.0127
2974-38 r2	Ref X Rep 5	Macoma	02/07/09	19.2	022009LIP	0.70	NA	NA
RPD						1%		NA
2974-40 r1	Ref X Rep 4	Macoma	02/07/09	19.1	022009LIP	0.77	022409DMA	0.0159
2974-40 r2	Ref X Rep 4	Macoma	02/07/09	19.1	NA	NA	022409DMA	0.0161
RPD						NA		1%
2974-58 r1	Area 2 Rep 3	Nephtys	02/07/09	18.8	022309LIP	0.50	021809DMA	0.00878
2974-58 r2	Area 2 Rep 3	Nephtys	02/07/09	18.8	022309LIP	0.48	NA	NA
RPD						4%		NA
2974-65 r1	Lower Comp Rep 5	Nephtys	02/07/09	18.3	022309LIP	0.45	021809DMA	0.0246
2974-65 r2	Lower Comp Rep 5	Nephtys	02/07/09	18.3	NA	NA	021809DMA	0.0248
RPD						NA		1%
2974-81 r1	Ref comp Rep 4	Nephtys	02/07/09	20.0	022509LIP	0.77	021909DMA	0.00752
2974-81 r2	Ref comp Rep 4	Nephtys	02/07/09	20.0	NA	NA	021909DMA	0.00750
RPD						NA		0%
2974-93 r1	Area 1 Comp Rep 1	Nephtys	02/07/09	18.5	022509LIP	1.01	021909DMA	0.00947
2974-93 r2	Area 1 Comp Rep 1	Nephtys	02/07/09	18.5	022509LIP	1.02	NA	NA
RPD						1%		NA

U Not detected at or above DL shown

NA Not Applicable

NS Not Spiked

Approvals:

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MSL Code	Client ID	Collection Date	Percent Dry Weight	Lipids Batch ID	Percent Lipids -ww	THg Batch ID	THg (µg/g wet)
Project Manager		Date	QC Reviewer		Date		