



Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 18, 2012

Grant A. Holdcroft
Kitsap County Public Health District
345 6th Street, Suite 300
Bremerton, WA 98337-1866

RE: Project: KRRC SHA Sampling
ARI Job No: VB58

Dear Mr. Holdcroft,

Please find enclosed the original Chain-of-Custody record (COC), sample receipt documentation, and the final results for the samples for the project referenced above. Analytical Resources, Inc. (ARI) accepted three water samples on July 9, 2012. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for total metals, as requested on the COC.

There were no anomalies associated with the analysis 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.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

cc: eFile VB58

Enclosures

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

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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.



Cooler Receipt Form

ARI Client: Kitsap Public Health

COC No(s): _____ (NA)

Assigned ARI Job No: VB58

Project Name: KRRC SHA Sampling

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No: 1Z9978560350059067 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? _____

YES ☐ NO ☒

Were custody papers included with the cooler? _____

YES ☒ NO ☐

Were custody papers properly filled out (ink, signed, etc.) _____

YES ☒ NO ☐

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) _____ 18.3

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90941619

Cooler Accepted by: dm Date: 7/9/12 Time: 1035

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES ☐ NO ☒

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? _____

NA YES ☒ NO ☐

Were all bottles sealed in individual plastic bags? _____

YES ☒ NO ☐

Did all bottles arrive in good condition (unbroken)? _____

YES ☒ NO ☐

Were all bottle labels complete and legible? _____

YES ☒ NO ☐

Did the number of containers listed on COC match with the number of containers received? _____

YES ☒ NO ☐

Did all bottle labels and tags agree with custody papers? _____

YES ☒ NO ☐

Were all bottles used correct for the requested analyses? _____

YES ☒ NO ☐

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...

NA YES ☒ NO ☐

Were all VOC vials free of air bubbles? _____

NA YES ☒ NO ☐

Was sufficient amount of sample sent in each bottle? _____

YES ☒ NO ☐

Date VOC Trip Blank was made at ARI: _____

NA ☒

Was Sample Split by ARI: NA YES ☐ Date/Time: _____ Equipment: _____ Split by: _____

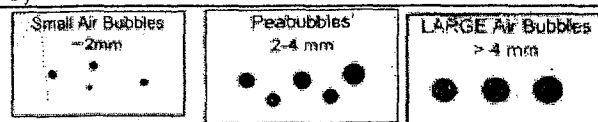
Samples Logged by: TS Date: 7-9-12 Time: 1142

** Notify Project Manager of discrepancies or concerns **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 07/09/12

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ARI Job No: VB58

PC: Sue D.
VTSR: 07/09/12

Inquiry Number: NONE
Analysis Requested: 07/09/12
Contact: Holdcroft, Grant
Client: Kitsap Public Health District
Logged by: TS
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #:
Project: KRRC SHA Sampling
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY	
12-12987 VB58A	KRRC 5						TOT FAS												<2	WR2276	2.0mL	07.09.12 MDD
12-12988 VB58B	KRRC 4						TOT FAS															
12-12989 VB58C	KRRC 2						TOT FAS															

[WR2276 = 1.1 HNO₃]

VB58 : 00005

Checked By TS Date 7.9.12

Sample ID Cross Reference Report



ARI Job No: VB58
Client: Kitsap Public Health District
Project Event: N/A
Project Name: KRRC SHA Sampling

Sample ID	ARI		Matrix	Sample Date/Time	VTSR
	Lab ID	LIMS ID			
1. KRRC 5	VB58A	12-12987	Water	07/03/12 07:45	07/09/12 10:35
2. KRRC 4	VB58B	12-12988	Water	07/03/12 07:55	07/09/12 10:35
3. KRRC 2	VB58C	12-12989	Water	07/03/12 08:30	07/09/12 10:35

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

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Sample ID: KRRC 5
SAMPLE

Lab Sample ID: VB58A

LIMS ID: 12-12987

Matrix: Water

Data Release Authorized:

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District
Project: KRRC SHA Sampling

Date Sampled: 07/03/12

Date Received: 07/09/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/12	200.8	07/13/12	7440-36-0	Antimony	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-38-2	Arsenic	0.2	0.6	
200.8	07/12/12	200.8	07/13/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	07/12/12	200.8	07/13/12	7440-47-3	Chromium	0.5	0.8	
200.8	07/12/12	200.8	07/13/12	7440-50-8	Copper	0.5	1.6	
200.8	07/12/12	200.8	07/13/12	7439-92-1	Lead	0.1	3.6	
7470A	07/11/12	7470A	07/17/12	7439-97-6	Mercury	0.1	0.1	U

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: KRRC 4
SAMPLE

Lab Sample ID: VB58B

LIMS ID: 12-12988

Matrix: Water

Data Release Authorized: 

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: 07/03/12

Date Received: 07/09/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/12	200.8	07/13/12	7440-36-0	Antimony	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-38-2	Arsenic	0.2	0.4	
200.8	07/12/12	200.8	07/13/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	07/12/12	200.8	07/13/12	7440-47-3	Chromium	0.5	0.5	U
200.8	07/12/12	200.8	07/13/12	7440-50-8	Copper	0.5	1.1	
200.8	07/12/12	200.8	07/13/12	7439-92-1	Lead	0.1	1.3	
7470A	07/11/12	7470A	07/17/12	7439-97-6	Mercury	0.1	0.1	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: KRRC 2
SAMPLE

Lab Sample ID: VB58C

LIMS ID: 12-12989

Matrix: Water

Data Release Authorized: 

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: 07/03/12

Date Received: 07/09/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/12	200.8	07/13/12	7440-36-0	Antimony	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	07/12/12	200.8	07/13/12	7440-47-3	Chromium	0.5	0.5	U
200.8	07/12/12	200.8	07/13/12	7440-50-8	Copper	0.5	0.5	
200.8	07/12/12	200.8	07/13/12	7439-92-1	Lead	0.1	0.1	
7470A	07/11/12	7470A	07/17/12	7439-97-6	Mercury	0.1	0.1	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: KRRC 5

MATRIX SPIKE

Lab Sample ID: VB58A

LIMS ID: 12-12987

Matrix: Water

Data Release Authorized

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: 07/03/12

Date Received: 07/09/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	200.8	0.2 U	23.5	25.0	94.0%	
Arsenic	200.8	0.6	27.5	25.0	108%	
Cadmium	200.8	0.1 U	24.6	25.0	98.4%	
Chromium	200.8	0.8	24.9	25.0	96.4%	
Copper	200.8	1.6	27.8	25.0	105%	
Lead	200.8	3.6	28.4	25.0	99.2%	
Mercury	7470A	0.1 U	1.1	1.0	110%	

Reported in µg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

NR-Not Recovered

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

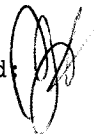
Page 1 of 1

Sample ID: KRRC 5
DUPLICATE

Lab Sample ID: VB58A

LIMS ID: 12-12987

Matrix: Water

Data Release Authorized: 

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: 07/03/12

Date Received: 07/09/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	200.8	0.6	0.5	18.2%	+/- 0.2	L
Cadmium	200.8	0.1 U	0.1 U	0.0%	+/- 0.1	L
Chromium	200.8	0.8	0.8	0.0%	+/- 0.5	L
Copper	200.8	1.6	1.6	0.0%	+/- 0.5	L
Lead	200.8	3.6	3.7	2.7%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L

Reported in µg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: VB58LCS

LIMS ID: 12-12988

Matrix: Water

Data Release Authorized: 

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	200.8	24.1	25.0	96.4%	
Arsenic	200.8	26.9	25.0	108%	
Cadmium	200.8	24.5	25.0	98.0%	
Chromium	200.8	25.0	25.0	100%	
Copper	200.8	26.7	25.0	107%	
Lead	200.8	24.8	25.0	99.2%	
Mercury	7470A	1.99	2.00	99.5%	

Reported in µg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: VB58MB

LIMS ID: 12-12988

Matrix: Water

Data Release Authorized: 

Reported: 07/18/12

QC Report No: VB58-Kitsap Public Health District

Project: KRRC SHA Sampling

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/12	200.8	07/13/12	7440-36-0	Antimony	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/12/12	200.8	07/13/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	07/12/12	200.8	07/13/12	7440-47-3	Chromium	0.5	0.5	U
200.8	07/12/12	200.8	07/13/12	7440-50-8	Copper	0.5	0.5	U
200.8	07/12/12	200.8	07/13/12	7439-92-1	Lead	0.1	0.1	U
7470A	07/11/12	7470A	07/17/12	7439-97-6	Mercury	0.1	0.1	U

U-Analyte undetected at given RL

RL-Reporting Limit