

July 15, 2011

Analytical Report for Service Request No: K1105585

Joe Hitselberger
Alaska Department of Fish and Game
Division of Habitat
P.O. Box 110024
Juneau, AK 99811

RE: Fish Tissue Metals Analysis

Dear Joe:

Enclosed are the results of the samples submitted to our laboratory on June 21, 2011. For your reference, these analyses have been assigned our service request number K1105585.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at MShelton@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Mike Shelton
Project Chemist

MS/lg

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



COLUMBIA ANALYTICAL SERVICES, INC.

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request No.: K1105585
Date Received: 6/21/11

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Forty one tissue samples were received for analysis at Columbia Analytical Services on 6/21/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored frozen at -20°C upon receipt at the laboratory.

Total Metals

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Zinc for sample 061311TRBDVJ5 was outside control criteria. However, the analyte concentration in this sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. No further corrective action was appropriate.

Relative Percent Difference Exceptions:

The Relative Percent Difference (RPD) for the replicate analysis of Cadmium in sample 061611TRMDVJ6 was outside the project specified control limits. The samples were homogenized, freeze dried, then ground prior to digestion, however this was not sufficient to achieve a completely uniform distribution of Cadmium in the tissue.

No other anomalies associated with the analysis of these samples were observed.

Approved by Mike Stuber Date 7/18/11



800.695.7222
www.caslab.com

Client:	Alaska Dept. of Fish and Game	CHAIN of CUSTODY		Page <u>1</u> of <u>3</u>
		Project:	Fish Tissue Metals Analysis	
Project Manager	Joe Hitzelberger	Telephone No.	(541) 272-3064	Fax No. (907) 465-4759

Sample I.D.	Lab Sample No.	No. of Containers	Matrix				Prsv.		Sampling Date	Sampling Time	Turn Around Time (working days)	Special Detection Limit/Reporting
			Soil	Water	Air	Other	Yes	No				
061511UTRDVJ1	1							6/15/11	1000		See Attached Quote <i>K1105585</i>	
061611UTRDVJ12	2							6/16/11	1000			
061611UTRDVJ9	3							6/16/11	1000			
061611UTRDVJ3	4							6/16/11	1000			
061611UTRDVJ6	5							6/16/11	1000			
061611UTRDVJ5	6							6/16/11	1000			
061611UTRDVJ7	7							6/16/11	1000			
061611UTRDVJ2	8							6/16/11	1000			
061611UTRDVJ4	9							6/16/11	1000			
061611UTRDVJ11	10							6/16/11	1000			
061611UTRDVJ10	11							6/16/11	1000			
061611UTRDVJ8	12							6/16/11	1000			
060311TRBDVJ7	13							6/3/11	1000			
061311TRBDVJ2	14							6/13/11	1000			

Sample Received Intact: Yes No		Temperature received: Ice No ice	
Relinq. by sampler (Sign & Print Name) <i>Joe Hitzelberger</i>		Date Time <i>0800</i> <i>6/20/11</i>	Received by (Sign & Print Name) <i>SIX SHORRINS</i> <i>6/21/11 0845</i>
Relinquished by		Date Time	Received by
Relinquished by		Date Time	Received by
Relinquished by		Date Time	Received by laboratory Date Time

M A R K S



800.695.7222
www.caslab.com

Client: **Alaska Dept. of Fish and Game**

Project Manager: **Joe Hitzelberger**

CHAIN of CUSTODY

Project: **Fish Tissue Metals Analysis**

Telephone No. (541) 272-3064 Fax No. (907) 465-4759

Method of Shipment

FedEx

Special Detection Limit/Reporting

See Attached Quote

K110588PS

Sample I.D.	Lab Sample No.	No. of Containers	Matrix				Prsv.		Sampling Date	Sampling Time												Turn Around Time (working days)
			Soil	Water	Air	Other	Yes	No														
	15							6/16/11	1130													
	16							6/16/11	1130													
	17							6/16/11	1130													
	18							6/16/11	1130													
	19							6/16/11	1130													
	20							6/16/11	1130													
	21							6/16/11	1130													
	22							6/16/11	1130													
	23							6/16/11	1130													
	24							6/16/11	1130													
	25							6/16/11	1130													
	26							6/16/11	1130													
	27							6/16/11	1130													
	28							6/16/11	1130													

M A R K S

Sample Received Intact: Yes No Temperature received: Ice No ice

Relinquished by (Sign & Print Name)	Date	Time	Received by (Sign & Print Name)
<i>Joe Hitzelberger</i>	6/20/11	0800	<i>JAN STORIKIAS</i> 6/21/11 0845
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory Date Time

Lab Work No.



800.695.7222
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Sample I.D.

Client: Alaska Dept. of Fish and Game		CHAIN of CUSTODY										Page <u>3</u> of <u>3</u>													
Project Manager: Joe Hitzelberger		Project: Fish Tissue Metals Analysis										Method of Shipment													
		Telephone No. (541) 272-3064					Fax No. (907) 465-4759					FedEx													
												Special Detection Limit/Reporting													
												See Attached Quote													
Lab Sample No.	No. of Containers	Matrix				Prsv.		Sampling Date	Sampling Time											Turn Around Time (working days)					
		Soil	Water	Air	Other	Yes	No																		
061411TRBDVJ1	29							6/15/11	1000																
060311TRBDVJ9	30							6/3/11	1000																
061311TRBDVJ5	31							6/13/11	1000																
061311TRBDVJ6	32							6/13/11	1000																
061311TRBDVJ3	33							6/13/11	1000																
061311TRBDVJ4	34							6/13/11	1000																
060311TRBDVJ8	35							6/3/11	1000																
061611TRMDVJ1	36							6/16/11	1130																
061611TRMDVJ2	37							6/16/11	1130																
061611TRMDVJ3	38							6/16/11	1130																
061611TRMDVJ4	39							6/16/11	1130																
061611TRMDVJ5	40							6/16/11	1130																
061611TRMDVJ6	41							6/16/11	1130																
Sample Received Intact: Yes No		Temperature received: Ice No ice																							
Relinquished by: <i>Joe Hitzelberger</i>		Date Time: <i>6/20/11 0800</i>		Received by (Sign & Print Name): <i>SHOPKINS 6/21/11 0845</i>																					
Relinquished by:		Date Time:		Received by:																					
Relinquished by:		Date Time:		Received by:																					
Relinquished by:		Date Time:		Received by laboratory:										Date Time:											

K1105585

M A R K S

**Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form**

PC Mike

Client / Project: Alaska Dept. of Fish + Game Service Request K11 5585

Received: 10/21/11 Opened: 10/21/11 By: SNV Unloaded: 10/21/11 By: SNV

1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	NA	Tracking Number	NA	Filed
<u>3.1</u>	<u>—</u>	<u>300</u>			<u>8757 1197 8101</u>		

7. Packing material used. Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/15/11
Date Received: 06/21/11

Solids, Total

Prep Method: NONE
Analysis Method: Freeze Dry
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Analyzed	Result	Result Notes
061511UTRDVJ1	K1105585-001	06/24/11	20.9	
061611UTRDVJ12	K1105585-002	06/24/11	20.8	
061611UTRDVJ9	K1105585-003	06/24/11	19.2	
061611UTRDVJ3	K1105585-004	06/24/11	20.2	
061611UTRDVJ6	K1105585-005	06/24/11	20.9	
061611UTRDVJ5	K1105585-006	06/24/11	21.5	
061611UTRDVJ7	K1105585-007	06/24/11	20.5	
061611UTRDVJ2	K1105585-008	06/24/11	22.5	
061611UTRDVJ4	K1105585-009	06/24/11	22.2	
061611UTRDVJ11	K1105585-010	06/24/11	20.0	
061611UTRDVJ10	K1105585-011	06/24/11	20.1	
061611UTRDVJ8	K1105585-012	06/24/11	22.1	
060311TRBDVJ7	K1105585-013	06/24/11	23.7	
061311TRBDVJ2	K1105585-014	06/24/11	23.0	
061611TRMDVJ7	K1105585-015	06/24/11	22.9	
061611TRMDVJ8	K1105585-016	06/24/11	21.6	
061611TRMDVJ9	K1105585-017	06/24/11	21.7	
061611TRMDVJ10	K1105585-018	07/13/11	23.3	
061611TRMDVJ11	K1105585-019	06/24/11	22.4	
061611TRMDVJ12	K1105585-020	06/24/11	20.2	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11

Solids, Total

Prep Method: NONE
 Analysis Method: Freeze Dry
 Test Notes:

Units: PERCENT
 Basis: Wet

Sample Name	Lab Code	Date Analyzed	Result	Result Notes
061611TRMDVJ13	K1105585-021	06/24/11	22.4	
061611TRMDVJ14	K1105585-022	06/24/11	22.3	
061611TRMDVJ15	K1105585-023	06/24/11	19.9	
061611TRMDVJ16	K1105585-024	06/24/11	21.9	
061611TRMDVJ17	K1105585-025	06/24/11	23.1	
061611TRMDVJ18	K1105585-026	06/24/11	19.0	
061611TRMDVJ19	K1105585-027	06/24/11	23.9	
061611TRMDVJ20	K1105585-028	06/24/11	21.4	
061411TRBDVJ1	K1105585-029	06/24/11	21.4	
060311TRBDVJ9	K1105585-030	06/24/11	24.1	
061311TRBDVJ5	K1105585-031	06/24/11	23.4	
061311TRBDVJ6	K1105585-032	06/24/11	25.3	
061311TRBDVJ3	K1105585-033	06/24/11	25.5	
061311TRBDVJ4	K1105585-034	06/24/11	23.5	
060311TRBDVJ8	K1105585-035	06/24/11	25.2	
061611TRMDVJ1	K1105585-036	06/24/11	24.3	
061611TRMDVJ2	K1105585-037	06/24/11	25.1	
061611TRMDVJ3	K1105585-038	06/24/11	23.3	
061611TRMDVJ4	K1105585-039	06/24/11	23.9	
061611TRMDVJ5	K1105585-040	06/24/11	22.6	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11

Solids, Total

Prep Method: NONE
Analysis Method: Freeze Dry
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Analyzed	Result	Result Notes
061611TRMDVJ6	K1105585-041	06/24/11	22.1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: NA
Date Analyzed: 06/24/11

Duplicate Summary

Sample Name: 061611UTRDVJ8
Lab Code: K1105585-012D
Test Notes:

Units: PERCENT
Basis: Wet

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	NA	Freeze Dry	22.1	22.2	22.2	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/13/11
Date Received: 06/21/11
Date Extracted: NA
Date Analyzed: 06/24/11

Duplicate Summary

Sample Name: 061311TRBDVJ5
Lab Code: K1105585-031D
Test Notes:

Units: PERCENT
Basis: Wet

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	NA	Freeze Dry	23.4	24.0	23.7	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: NA
Date Analyzed: 06/24/11

Duplicate Summary

Sample Name: 061611TRMDVJ6
Lab Code: K1105585-041D
Test Notes:

Units: PERCENT
Basis: Wet

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	NA	Freeze Dry	22.1	22.2	22.2	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/03-16/11
Date Received: 06/21/11

Mercury, Total

Prep Method: METHOD
Analysis Method: 1631E
Test Notes:

Units: ng/g
Basis: Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
061511UTRDVJ1	K1105585-001	1.0	20	06/29/11	06/30/11	85.8	
061611UTRDVJ12	K1105585-002	1.0	20	06/29/11	06/30/11	32.5	
061611UTRDVJ9	K1105585-003	1.0	20	06/29/11	06/30/11	64.1	
061611UTRDVJ3	K1105585-004	1.0	20	06/29/11	06/30/11	30.4	
061611UTRDVJ6	K1105585-005	1.0	20	06/29/11	06/30/11	33.8	
061611UTRDVJ5	K1105585-006	1.0	20	06/29/11	06/30/11	47.8	
061611UTRDVJ7	K1105585-007	1.0	20	06/29/11	06/30/11	88.0	
061611UTRDVJ2	K1105585-008	1.0	20	06/29/11	06/30/11	40.7	
061611UTRDVJ4	K1105585-009	1.0	20	06/29/11	06/30/11	21.1	
061611UTRDVJ11	K1105585-010	1.0	20	06/29/11	06/30/11	47.2	
061611UTRDVJ10	K1105585-011	1.0	20	06/29/11	06/30/11	57.6	
061611UTRDVJ8	K1105585-012	2.0	40	06/29/11	06/30/11	67.2	
060311TRBDVJ7	K1105585-013	1.0	20	06/29/11	06/30/11	42.3	
061311TRBDVJ2	K1105585-014	1.0	20	06/29/11	06/30/11	65.0	
061611TRMDVJ7	K1105585-015	1.0	20	06/29/11	06/30/11	30.2	
061611TRMDVJ8	K1105585-016	1.0	20	06/29/11	06/30/11	44.8	
061611TRMDVJ9	K1105585-017	1.0	20	06/29/11	06/30/11	28.7	
061611TRMDVJ10	K1105585-018	1.0	20	06/29/11	06/30/11	38.2	
061611TRMDVJ11	K1105585-019	1.0	20	06/29/11	06/30/11	34.7	
061611TRMDVJ12	K1105585-020	1.0	20	06/29/11	06/30/11	60.3	
Method Blank1	K1105585-MB1	1.0	20	06/29/11	06/30/11	ND	
Method Blank2	K1105585-MB2	1.0	20	06/29/11	06/30/11	ND	
Method Blank3	K1105585-MB3	1.0	20	06/29/11	06/30/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/03-16/2011
Date Received: 06/21/11

Mercury, Total

Prep Method: METHOD
 Analysis Method: 1631E
 Test Notes:

Units: ng/g
 Basis: Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
061611TRMDVJ13	K1105585-021	2.0	40	06/29/11	06/30/11	59.8	
061611TRMDVJ14	K1105585-022	1.0	20	06/29/11	06/30/11	32.4	
061611TRMDVJ15	K1105585-023	1.0	20	06/29/11	06/30/11	47.6	
061611TRMDVJ16	K1105585-024	1.0	20	06/29/11	06/30/11	45.5	
061611TRMDVJ17	K1105585-025	1.0	20	06/29/11	06/30/11	22.0	
061611TRMDVJ18	K1105585-026	1.0	20	06/29/11	06/30/11	273	
061611TRMDVJ19	K1105585-027	1.0	20	06/29/11	06/30/11	43.2	
061611TRMDVJ20	K1105585-028	1.0	20	06/29/11	06/30/11	56.5	
061411TRBDVJ1	K1105585-029	1.0	20	06/29/11	06/30/11	69.0	
060311TRBDVJ9	K1105585-030	1.0	20	06/29/11	06/30/11	55.7	
061311TRBDVJ5	K1105585-031	1.0	20	06/29/11	06/30/11	36.5	
061311TRBDVJ6	K1105585-032	1.0	20	06/29/11	06/30/11	47.9	
061311TRBDVJ3	K1105585-033	1.0	20	06/29/11	06/30/11	58.1	
061311TRBDVJ4	K1105585-034	1.0	20	06/29/11	06/30/11	27.1	
060311TRBDVJ8	K1105585-035	1.0	20	06/29/11	06/30/11	35.8	
061611TRMDVJ1	K1105585-036	1.0	20	06/29/11	06/30/11	41.4	
061611TRMDVJ2	K1105585-037	1.0	20	06/29/11	06/30/11	69.0	
061611TRMDVJ3	K1105585-038	1.0	20	06/29/11	06/30/11	39.3	
061611TRMDVJ4	K1105585-039	1.0	20	06/29/11	06/30/11	27.6	
061611TRMDVJ5	K1105585-040	2.0	40	06/29/11	06/30/11	62.8	
Method Blank1	K1105585-MB1	1.0	20	06/29/11	06/30/11	ND	
Method Blank2	K1105585-MB2	1.0	20	06/29/11	06/30/11	ND	
Method Blank3	K1105585-MB3	1.0	20	06/29/11	06/30/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11

Mercury, Total

Prep Method: METHOD
Analysis Method: 1631E
Test Notes:

Units: ng/g
Basis: Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
061611TRMDVJ6	K1105585-041	2.0	40	06/27/11	06/28/11	63.6	
Method Blank1	K1105585-MB1	1.0	20	06/27/11	06/28/11	ND	
Method Blank2	K1105585-MB2	1.0	20	06/27/11	06/28/11	ND	
Method Blank3	K1105585-MB3	1.0	20	06/27/11	06/28/11	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: 061611UTRDVJ4 Units: ng/g
Lab Code: K1105585-009MS, K1105585-009MSD Basis: Dry
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	1.0	265	267	21.1	296	276	104	95	70-130	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: 061611UTRDVJ8 Units: ng/g
 Lab Code: K1105585-012MS K1105585-012MSD Basis: Dry
 Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	2.0	252	253	67.2	296	280	91	84	70-130	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/30/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Initial) Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	4.83	97	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/30/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Final) Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Mercury	METHOD	1631E	5.00	5.28	106	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Quality Control Sample (QCS) Summary
 Total Metals

Sample Name: Quality Control Sample

Units: ng/g
 Basis: Dry

Test Notes:

Source: NRCC Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	270	218	81	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: 061611TRMDVJ13 Units: ng/g
 Lab Code: K1105585-021MS, K1105585-021MSD Basis: Dry
 Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	2.0	251	251	59.8	316	265	102	82	70-130	18	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: 06/16/11
Date Received: 06/21/11
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: 061611TRMDVJ5 Units: ng/g
Lab Code: K1105585-040MS Basis: Dry
Test Notes: K1105585-040MSD

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	2.0	249	253	62.8	295	312	93	98	70-130	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/30/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Initial) Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	5.25	105	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/30/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Final)

Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Mercury	METHOD	1631E	5.00	5.91	118	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/29/11
Date Analyzed: 06/30/11

Quality Control Sample (QCS) Summary
Total Metals

Sample Name: Quality Control Sample

Units: ng/g
Basis: Dry

Test Notes:

Source: NRCC Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	270	256	95	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
Sample Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 06/28/11

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: Batch QC Units: ng/g
 Lab Code: K1105631-030MS, K1105631-030MSD Basis: Dry
 Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	2.0	26	26	6.2	30.1	31.5	92	97	70-130	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/28/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Initial) Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	5.09	102	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Water

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 06/28/11

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Final) Units: ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Mercury	METHOD	1631E	5.00	5.79	116	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 06/28/11

Quality Control Sample (QCS) Summary
Total Metals

Sample Name: Quality Control Sample

Units: ng/g
Basis: Dry

Test Notes:

Source: NRCC Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	270	285	106	70-130	

Columbia Analytical Services

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Game
Project Name: Fish Tissue Metals Analysis
Project No.:

Service Request: K1105585

<u>Sample Name:</u>	<u>Lab Code:</u>
061511UTRDVJ1	K1105585-001
061611UTRDVJ12	K1105585-002
061611UTRDVJ9	K1105585-003
061611UTRDVJ3	K1105585-004
061611UTRDVJ6	K1105585-005
061611UTRDVJ5	K1105585-006
061611UTRDVJ7	K1105585-007
061611UTRDVJ2	K1105585-008
061611UTRDVJ4	K1105585-009
061611UTRDVJ11	K1105585-010
061611UTRDVJ10	K1105585-011
061611UTRDVJ8	K1105585-012
061611UTRDVJ8D	K1105585-012D
061611UTRDVJ8S	K1105585-012S
060311TRBDVJ7	K1105585-013
061311TRBDVJ2	K1105585-014
061611TRMDVJ7	K1105585-015
061611TRMDVJ8	K1105585-016
061611TRMDVJ9	K1105585-017
061611TRMDVJ10	K1105585-018
061611TRMDVJ11	K1105585-019
061611TRMDVJ12	K1105585-020
061611TRMDVJ13	K1105585-021
061611TRMDVJ14	K1105585-022
061611TRMDVJ15	K1105585-023
061611TRMDVJ16	K1105585-024
061611TRMDVJ17	K1105585-025
061611TRMDVJ18	K1105585-026
061611TRMDVJ19	K1105585-027
061611TRMDVJ20	K1105585-028
061411TRBDVJ1	K1105585-029
060311TRBDVJ9	K1105585-030
061311TRBDVJ5	K1105585-031
061311TRBDVJ5D	K1105585-031D
061311TRBDVJ5S	K1105585-031S
061311TRBDVJ6	K1105585-032
061311TRBDVJ3	K1105585-033
061311TRBDVJ4	K1105585-034

Comments:

Approved By:



Date:



Columbia Analytical Services

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INORGANIC ANALYSIS DATA PACKAGE


Client: Alaska Department of Fish and Game
Project Name: Fish Tissue Metals Analysis
Project No.:

Service Request: K1105585

<u>Sample Name:</u>	<u>Lab Code:</u>
060311TRBDVJ8	K1105585-035
061611TRMDVJ1	K1105585-036
061611TRMDVJ2	K1105585-037
061611TRMDVJ3	K1105585-038
061611TRMDVJ4	K1105585-039
061611TRMDVJ5	K1105585-040
061611TRMDVJ6	K1105585-041
061611TRMDVJ6D	K1105585-041D
061611TRMDVJ6S	K1105585-041S
Method Blank	K1105585-MB1
Method Blank	K1105585-MB2
Method Blank	K1105585-MB3

Comments:

Approved By:



Date:



Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/15/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061511UTRDVJ1 Lab Code: K1105585-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	1.47		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.375		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.81		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.635		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.3		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02		
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	115		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ12 Lab Code: K1105585-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.145		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.76		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.065		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	118		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ9 Lab Code: K1105585-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	1.00	5.0	06/27/11	07/11/11	1.00	U	
Cadmium	6020A	0.040	5.0	06/27/11	07/11/11	0.158		
Copper	6020A	0.20	5.0	06/27/11	07/11/11	3.78		
Lead	6020A	0.040	5.0	06/27/11	07/11/11	0.293		
Selenium	7010	2.0	10.0	06/27/11	07/13/11	2.9		
Silver	6020A	0.04	5.0	06/27/11	07/11/11	0.04	U	
Zinc	6020A	1.00	5.0	06/27/11	07/11/11	162		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ3

Lab Code: K1105585-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.111		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.17		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.039		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.4		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02		
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	161		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ6 Lab Code: K1105585-005

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.245		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.97		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.063		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	167		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ5 Lab Code: K1105585-006

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.81		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.409		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.54		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.362		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.3		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	158		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ7 Lab Code: K1105585-007

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.164		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.68		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.063		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	154		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ2

Lab Code: K1105585-008

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.83		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.132		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.40		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.160		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.4		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	116		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga **Service Request:** K1105585
Project No.: NA **Date Collected:** 06/16/11
Project Name: Fish Tissue Metals Analysis **Date Received:** 06/21/11
Matrix: TISSUE **Units:** mg/Kg
 Basis: DRY

Sample Name: 061611UTRDVJ4 **Lab Code:** K1105585-009

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.52		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.088		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.37		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.194		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.3		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	139		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ11 Lab Code: K1105585-010

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.203		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.19		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.025		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.0		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	194		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ10

Lab Code: K1105585-011

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.251		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.74		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.182		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.6		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	201		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611UTRDVJ8 Lab Code: K1105585-012

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.070		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.35		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.046		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.5		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	111		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/03/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 060311TRBDVJ7

Lab Code: K1105585-013

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.68		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.327		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.81		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.095		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.2		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	155		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/13/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061311TRBDVJ2 Lab Code: K1105585-014

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.80		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.133		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	5.84		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.086		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.6		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	134		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ7 Lab Code: K1105585-015

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.119		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.15		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.062		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	115		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ8 Lab Code: K1105585-016

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.69		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.150		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.39		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.076		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	145		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Date Collected: 06/16/11
 Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
 Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: 061611TRMDVJ9

Lab Code: K1105585-017

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.67		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.143		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.90		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.087		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	141		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ10 Lab Code: K1105585-018

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.85		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.343		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	5.09		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.111		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	149		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ11 Lab Code: K1105585-019

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	1.34		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.235		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.66		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.171		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.0		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	152		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: 061611TRMDVJ12 Lab Code: K1105585-020

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.98		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.164		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.57		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.064		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.7		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	154		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ13 Lab Code: K1105585-021

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	1.11		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.187		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.00		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.119		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.0		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	138		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ14 Lab Code: K1105585-022

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.112		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.64		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.064		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	110		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ15 Lab Code: K1105585-023

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.160		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.02		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.087		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	143		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ16 Lab Code: K1105585-024

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.75		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.163		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	6.04		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.048		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.1		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	144		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Game Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ17

Lab Code: K1105585-025

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.57		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.133		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.40		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.050		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.6		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	120		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ18 Lab Code: K1105585-026

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.80		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.100		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.64		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.197		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	1.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	167		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Date Collected: 06/16/11
 Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
 Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: 061611TRMDVJ19 Lab Code: K1105585-027

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.55		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.165		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.30		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.085		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	131		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ20 Lab Code: K1105585-028

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.82		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.175		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.03		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.152		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	3.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	155		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Alaska Department of Fish and Ga	Service Request:	K1105585
Project No.:	NA	Date Collected:	06/15/11
Project Name:	Fish Tissue Metals Analysis	Date Received:	06/21/11
Matrix:	TISSUE	Units:	mg/Kg
		Basis:	DRY

Sample Name: 061411TRBDVJ1

Lab Code: K1105585-029

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.53		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.171		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.03		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.052		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.0		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	123		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Date Collected: 06/03/11
 Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
 Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: 060311TRBDVJ9 Lab Code: K1105585-030

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	1.00	5.0	06/27/11	07/11/11	1.32		
Cadmium	6020A	0.040	5.0	06/27/11	07/11/11	0.236		
Copper	6020A	0.20	5.0	06/27/11	07/11/11	5.55		
Lead	6020A	0.040	5.0	06/27/11	07/11/11	0.128		
Selenium	7010	2.0	10.0	06/27/11	07/13/11	2.1		
Silver	6020A	0.04	5.0	06/27/11	07/11/11	0.04	U	
Zinc	6020A	1.00	5.0	06/27/11	07/11/11	115		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga **Service Request:** K1105585
Project No.: NA **Date Collected:** 06/13/11
Project Name: Fish Tissue Metals Analysis **Date Received:** 06/21/11
Matrix: TISSUE **Units:** mg/Kg
Basis: DRY

Sample Name: 061311TRBDVJ5 **Lab Code:** K1105585-031

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.82		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.220		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.03		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.091		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.2		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	134		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/13/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061311TRBDVJ6 Lab Code: K1105585-032

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.66		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.137		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.13		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.113		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.5		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	113		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga **Service Request:** K1105585
Project No.: NA **Date Collected:** 06/13/11
Project Name: Fish Tissue Metals Analysis **Date Received:** 06/21/11
Matrix: TISSUE **Units:** mg/Kg
 Basis: DRY

Sample Name: 061311TRBDVJ3 **Lab Code:** K1105585-033

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.060		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.81		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.031		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	1.8		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	113		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/13/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061311TRBDVJ4 Lab Code: K1105585-034

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.63		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.388		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.30		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.124		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.4		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	131		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga **Service Request:** K1105585
Project No.: NA **Date Collected:** 06/03/11
Project Name: Fish Tissue Metals Analysis **Date Received:** 06/21/11
Matrix: TISSUE **Units:** mg/Kg
 Basis: DRY

Sample Name: 060311TRBDVJ8 **Lab Code:** K1105585-035

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	1.11		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.352		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.01		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.413		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	4.7		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	109		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Date Collected: 06/16/11
 Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
 Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: 061611TRMDVJ1 Lab Code: K1105585-036

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.61		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.118		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	3.95		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.058		
Selenium	7010	1.0	10.0	06/27/11	07/13/11	2.5		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	157		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ2 Lab Code: K1105585-037

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.94		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.187		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.88		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.119		
Selenium	7010	1.0	10.0	06/27/11	07/14/11	4.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	96.8		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ3 Lab Code: K1105585-038

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.123		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	2.40		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.039		
Selenium	7010	1.0	10.0	06/27/11	07/14/11	3.7		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	88.9		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ4

Lab Code: K1105585-039

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	1.36		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.230		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	5.08		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.351		
Selenium	7010	1.0	10.0	06/27/11	07/14/11	3.5		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	118		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ5 Lab Code: K1105585-040

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.98		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.227		
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.93		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.067		
Selenium	7010	1.0	10.0	06/27/11	07/14/11	3.5		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	156		N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected: 06/16/11
Project Name: Fish Tissue Metals Analysis Date Received: 06/21/11
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: 061611TRMDVJ6 Lab Code: K1105585-041

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.88		
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.235		*
Copper	6020A	0.10	5.0	06/27/11	07/11/11	4.14		
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.152		
Selenium	7010	1.0	10.0	06/27/11	07/14/11	3.9		
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	156		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected:
Project Name: Fish Tissue Metals Analysis Date Received:
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: Method Blank 1 Lab Code: K1105585-MB1

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	
Copper	6020A	0.10	5.0	06/27/11	07/11/11	0.10	U	
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	
Selenium	7010	1.0	10.0	06/27/11	07/13/11	1.0	U	
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected:
Project Name: Fish Tissue Metals Analysis Date Received:
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: Method Blank 2 Lab Code: K1105585-MB2

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	
Copper	6020A	0.10	5.0	06/27/11	07/11/11	0.10	U	
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	
Selenium	7010	1.0	10.0	06/27/11	07/13/11	1.0	U	
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	N

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Alaska Department of Fish and Ga Service Request: K1105585
Project No.: NA Date Collected:
Project Name: Fish Tissue Metals Analysis Date Received:
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: Method Blank 3 Lab Code: K1105585-MB3

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	
Cadmium	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	*
Copper	6020A	0.10	5.0	06/27/11	07/11/11	0.10	U	
Lead	6020A	0.020	5.0	06/27/11	07/11/11	0.020	U	
Selenium	7010	1.0	10.0	06/27/11	07/14/11	1.0	U	
Silver	6020A	0.02	5.0	06/27/11	07/11/11	0.02	U	
Zinc	6020A	0.50	5.0	06/27/11	07/11/11	0.50	U	

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061611UTRDVJ8S

Lab Code: K1105585-012S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	17.0		0.50	U	16.53	102.8		6020A
Cadmium	75 - 125	4.870		0.070		4.95	97.0		6020A
Copper	75 - 125	24.5		2.35		24.75	89.5		6020A
Lead	75 - 125	44.3		0.046		49.50	89.4		6020A
Selenium	70 - 130	19.6		2.5		16.53	103.4		7010
Silver	75 - 125	4.44		0.02	U	4.95	89.7		6020A
Zinc	75 - 125	156		111		49.50	90.9		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061311TRBDVJ5S

Lab Code: K1105585-031S

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Arsenic	75 - 125	16.4	0.82	16.53	94.3		6020A
Cadmium	75 - 125	4.530	0.220	4.95	87.1		6020A
Copper	75 - 125	22.6	3.03	24.75	79.1		6020A
Lead	75 - 125	40.1	0.091	49.50	80.8		6020A
Selenium	70 - 130	16.0	2.2	16.53	83.5		7010
Silver	75 - 125	3.93	0.02 U	4.95	79.4		6020A
Zinc	75 - 125	163	134	49.50	58.6	N	6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061611TRMDVJ6S

Lab Code: K1105585-041S

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Arsenic	75 - 125	18.9	0.88	16.59	108.6		6020A
Cadmium	75 - 125	5.370	0.235	4.97	103.3		6020A
Copper	75 - 125	27.8	4.14	24.83	95.3		6020A
Lead	75 - 125	47.9	0.152	49.67	96.1		6020A
Selenium	70 - 130	19.8	3.9	16.59	95.8		7010
Silver	75 - 125	4.75	0.02 U	4.97	95.2		6020A
Zinc	75 - 125	208	156	49.67	104.7		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061611UTRDVJ8D

Lab Code: K1105585-012D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		0.50	U	0.50	U			6020A
Cadmium		0.070		0.062		12.1		6020A
Copper	20	2.35		2.40		2.1		6020A
Lead		0.046		0.032		35.9		6020A
Selenium		2.5		2.3		8.3		7010
Silver		0.02	U	0.02	U			6020A
Zinc	20	111		115		3.5		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061311TRBDVJ5D

Lab Code: K1105585-031D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		0.82		0.91		10.4		6020A
Cadmium	20	0.220		0.207		6.1		6020A
Copper	20	3.03		3.06		1.0		6020A
Lead		0.091		0.071		24.7		6020A
Selenium		2.2		2.1		4.7		7010
Silver		0.02	U	0.02	U			6020A
Zinc	20	134		128		4.6		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Alaska Department of Fish and Ga Service Request: K1105585
 Project No.: NA Units: MG/KG
 Project Name: Fish Tissue Metals Analysis Basis: DRY
 Matrix: TISSUE

Sample Name: 061611TRMDVJ6D

Lab Code: K1105585-041D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		0.88		0.94		6.6		6020A
Cadmium	20	0.235		0.363		42.8	*	6020A
Copper	20	4.14		4.25		2.6		6020A
Lead	20	0.152		0.141		7.5		6020A
Selenium		3.9		4.3		9.8		7010
Silver		0.02	U	0.02	U			6020A
Zinc	20	156		160		2.5		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Alaska Department of Fish and Ga Service Request: K1105585

Project No.: NA

Project Name: Fish Tissue Metals Analysis

Aqueous LCS Source: CAS MIXED

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	167	159	95.2					
Cadmium	50	48.0	96.0					
Copper	250	235	94.0					
Lead	500	472	94.4					
Selenium	167	180	107.8					
Silver	50	46.4	92.8					
Zinc	500	473	94.6					

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Alaska Department of Fish and Ga Service Request: K1105585

Project No.: NA

Project Name: Fish Tissue Metals Analysis

Aqueous LCS Source: CAS MIXED

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	167	168	100.6					
Cadmium	50	47.9	95.8					
Copper	250	237	94.8					
Lead	500	476	95.2					
Selenium	167	168	100.6					
Silver	50	46.4	92.8					
Zinc	500	488	97.6					

Metals

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LABORATORY CONTROL SAMPLE

Client: Alaska Department of Fish and Ga Service Request: K1105585

Project No.: NA

Project Name: Fish Tissue Metals Analysis

Aqueous LCS Source: CAS MIXED

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	167	165	98.8					
Cadmium	50	48.5	97.0					
Copper	250	236	94.4					
Lead	500	480	96.0					
Selenium	167	170	101.8					
Silver	50	46.1	92.2					
Zinc	500	489	97.8					

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11/11

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM1
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Dorm-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.88	7.05	102	5.26 - 8.62	
Cadmium	PSEP Tissue	6020A	0.29	0.32	110	0.216 - 0.372	
Copper	PSEP Tissue	6020A	15.5	14.5	94	11.9 - 19.4	
Lead	PSEP Tissue	6020A	0.395	0.318	81	0.276 - 0.534	
Zinc	PSEP Tissue	6020A	51.3	48.3	94	38.6 - 65.3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11-14/11

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM2
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	21.6	22.0	102	15.8-28.1	
Cadmium	PSEP Tissue	6020A	26.7	27.6	103	20.9-32.8	
Copper	PSEP Tissue	6020A	106	99.1	93	77-139	
Lead	PSEP Tissue	6020A	0.35	0.44	126	0.18-0.58	
Selenium	PSEP Tissue	7010	5.63	7.07	126	3.97-7.56	
Zinc	PSEP Tissue	6020A	180	185	103	139-223	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11/11

Standard Reference Material Summary
Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM3
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Dorm-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.88	6.78	99	5.26 - 8.62	
Cadmium	PSEP Tissue	6020A	0.29	0.31	107	0.216 - 0.372	
Copper	PSEP Tissue	6020A	15.5	14.6	94	11.9 - 19.4	
Lead	PSEP Tissue	6020A	0.395	0.378	96	0.276 - 0.534	
Zinc	PSEP Tissue	6020A	51.3	51.1	100	38.6 - 65.3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11-14/11

Standard Reference Material Summary
Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM4
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	21.6	21.5	100	15.8-28.1	
Cadmium	PSEP Tissue	6020A	26.7	27.7	104	20.9-32.8	
Copper	PSEP Tissue	6020A	106	97.2	92	77-139	
Lead	PSEP Tissue	6020A	0.35	0.29	83	0.18-0.58	
Selenium	PSEP Tissue	7010	5.63	5.41	96	3.97-7.56	
Zinc	PSEP Tissue	6020A	180	195	108	139-223	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11/11

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM5
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Dorm-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.88	6.93	101	5.26 - 8.62	
Cadmium	PSEP Tissue	6020A	0.29	0.30	103	0.216 - 0.372	
Copper	PSEP Tissue	6020A	15.5	14.5	94	11.9 - 19.4	
Lead	PSEP Tissue	6020A	0.395	0.375	95	0.276 - 0.534	
Zinc	PSEP Tissue	6020A	51.3	51.3	100	38.6 - 65.3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Alaska Department of Fish and Game
Project: Fish Tissue Metals Analysis
LCS Matrix: Tissue

Service Request: K1105585
Date Collected: NA
Date Received: NA
Date Extracted: 06/27/11
Date Analyzed: 07/11-14/11

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1105585-SRM6
Test Notes:

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Tort-2

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	21.6	22.1	102	15.8-28.1	
Cadmium	PSEP Tissue	6020A	26.7	27.9	104	20.9-32.8	
Copper	PSEP Tissue	6020A	106	98.1	93	77-139	
Lead	PSEP Tissue	6020A	0.35	0.33	94	0.18-0.58	
Selenium	PSEP Tissue	7010	5.63	5.81	103	3.97-7.56	
Zinc	PSEP Tissue	6020A	180	195	108	139-223	