

Arthur D. Little, Inc.

Environmental Monitoring and Analysis

Minerals Management Service - Shelikof Strait and Outermost Cook Inlet

1997 Final Data (Not Surrogate Corrected) - Liver samples - METALS

Field ID	97-0-F7a-01-00-PHC-T-H1	97-0-F7a-01-00-PHC-T-H2	97-0-F7a-01-00-PHC-T-H3	97-0-F7a-01-00-PHC-T-H3
Lab ID	97-0-F7a-01-00-PHC-T-H1	97-0-F7a-01-00-PHC-T-H2	97-0-F7a-01-00-PHC-T-H3 #1	97-0-F7a-01-00-PHC-T-H3 #2
SDG	NA	NA	NA	NA
File	NA	NA	NA	NA
Sample Type	SAMP	SAMP	SAMP	QC
Matrix	Liver Composite	Liver Composite	Liver Composite	Liver Composite
Sample Size	1.613 g	1.766 g	1.05 g	1.053 g
Weight Basis	DRY	DRY	DRY	DRY
Associated Blank	NA	NA	NA	NA
Field Date	7/15/1997	7/15/1997	7/15/1997	7/15/1997
Extract Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Analysis Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Min Reporting Limit	NA	NA	NA	NA
Units	---	---	---	---
METALS				
Ag - Silver (ug/g)	0.085	0.077	0.081	0.079
Al - Aluminum (%)	7.3	8.2	7.9	8.6
As - Arsenic (ug/g)	18	9.7	12.3	12.3
Ba - Barium (ug/g)	0.087	0.046	0.055	0.064
Be - Beryllium (ug/g)	0 N.D.	0 N.D.	0 N.D.	0 N.D.
Ca - Calcium (%)	NA	NA	NA	NA
Cd - Cadmium (ug/g)	5.4	4.2	2.6	2.6
Cr - Chromium (ug/g)	0.107	0.041	0.042	0.054
Cu - Copper (ug/g)	11.9	16	15.2	14.3
Fe - Iron (%)	69.3	184	241	241
Hg - Mercury (ug/g)	0.366	0.091	0.089	0.091
K - potassium (%)	NA	NA	NA	NA
Mg - Magnesium (%)	NA	NA	NA	NA
Mn - Manganese (ug/g)	3.7	3.2	3.2	3.1
Ni - Nickel (ug/g)	NA	NA	NA	NA
Pb - Lead (ug/g)	0.024	0.017	0.034	0.028
Sb - Antimony (ug/g)	0.003	0.002	0.003	0.004
Se - Selenium (ug/g)	7	6.8	6.9	6.9
Sn - Tin (ug/g)	0.38	0.19	0.16	0.16
Tl - Thallium (ug/g)	0.002	0.002	0.003	0.003
V - Vanadium (ug/g)	0.16	0.16	0.147	0.13
Zn - Zinc (ug/g)	94.7	69.7	84.7	83

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Field ID	97-0-F7a-01-00-PHC-T-H4	97-0-F7a-01-00-PHC-T-H5	97-0-F7a-01-00-PHC-T-H6	97-2-14a-01-00-PHC-T-AF1
Lab ID	97-0-F7a-01-00-PHC-T-H4	97-0-F7a-01-00-PHC-T-H5	97-0-F7a-01-00-PHC-T-H6	97-2-14a-01-00-PHC-T-AF1
SDG	NA	NA	NA	NA
File	NA	NA	NA	NA
Sample Type	SAMP	SAMP	SAMP	SAMP
Matrix	Liver Composite	Liver Composite	Liver Composite	Liver Composite
Sample Size	1.639 g	1.949 g	1.758 g	1.425 g
Weight Basis	DRY	DRY	DRY	DRY
Associated Blank	NA	NA	NA	NA
Field Date	7/15/1997	7/16/1997	7/16/1997	7/13/1997
Extract Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Analysis Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Min Reporting Limit	NA	NA	NA	NA
Units	---	---	---	---
METALS				
Ag - Silver (ug/g)	0.042	0.12	0.042	0.044
Al - Aluminum (%)	19.3	13.8	5.9	5.9
As - Arsenic (ug/g)	11.2	7.1	7.4	21.4
Ba - Barium (ug/g)	0.051	0.056	0.027	0.078
Be - Beryllium (ug/g)	0 N.D.	0 N.D.	0 N.D.	0 N.D.
Ca - Calcium (%)	NA	NA	NA	NA
Cd - Cadmium (ug/g)	4.6	4.4	3.2	4.7
Cr - Chromium (ug/g)	0.047	0.063	0.128	0.075
Cu - Copper (ug/g)	16.2	21.9	14.4	11.1
Fe - Iron (%)	255	123	144	688
Hg - Mercury (ug/g)	0.107	0.063	0.059	0.096
K - potassium (%)	NA	NA	NA	NA
Mg - Magnesium (%)	NA	NA	NA	NA
Mn - Manganese (ug/g)	3.4	3.2	3.4	2.9
Ni - Nickel (ug/g)	NA	NA	NA	NA
Pb - Lead (ug/g)	0.044	0.024	0.026	0.012
Sb - Antimony (ug/g)	0.004	0.003	0.028	0.003
Se - Selenium (ug/g)	7	6.1	6.7	8.1
Sn - Tin (ug/g)	0.15	0.13	0.19	0.31
Tl - Thallium (ug/g)	0.003	0.003	0.002	0.002
V - Vanadium (ug/g)	0.184	0.088	0.073	0.169
Zn - Zinc (ug/g)	92.2	76.7	77.1	72.6

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Field ID	97-2-14a-01-00-PHC-T-H1	97-2-14a-01-00-PHC-T-H2	97-2-14a-01-00-PHC-T-H3	97-2-14a-01-00-PHC-T-H4
Lab ID	97-2-14a-01-00-PHC-T-H1	97-2-14a-01-00-PHC-T-H2	97-2-14a-01-00-PHC-T-H3	97-2-14a-01-00-PHC-T-H4
SDG	NA	NA	NA	NA
File	NA	NA	NA	NA
Sample Type	SAMP	SAMP	SAMP	SAMP
Matrix	Liver Composite	Liver Composite	Liver Composite	Liver Composite
Sample Size	1.54 g	1.489 g	1.153 g	1.113 g
Weight Basis	DRY	DRY	DRY	DRY
Associated Blank	NA	NA	NA	NA
Field Date	7/13/1997	7/13/1997	7/13/1997	7/13/1997
Extract Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Analysis Date	9/13/1997	9/13/1997	9/13/1997	9/13/1997
Min Reporting Limit	NA	NA	NA	NA
Units	---	---	---	---
METALS				
Ag - Silver (ug/g)	0.048	0.135	0.1	0.133
Al - Aluminum (%)	9.9	5.6	3.7	6.3
As - Arsenic (ug/g)	32	26	27.8	33.3
Ba - Barium (ug/g)	0.043	0.078	0.118	0.127
Be - Beryllium (ug/g)	0 N.D.	0 N.D.	0 N.D.	0 N.D.
Ca - Calcium (%)	NA	NA	NA	NA
Cd - Cadmium (ug/g)	4.1	4.2	5.8	6.2
Cr - Chromium (ug/g)	0.059	0.053	0.037	0.032
Cu - Copper (ug/g)	3.9	10.7	15.7	20.5
Fe - Iron (%)	59.8	108	255	629
Hg - Mercury (ug/g)	0.667	0.294	0.347	0.221
K - potassium (%)	NA	NA	NA	NA
Mg - Magnesium (%)	NA	NA	NA	NA
Mn - Manganese (ug/g)	3.6	3.9	4.9	5.5
Ni - Nickel (ug/g)	NA	NA	NA	NA
Pb - Lead (ug/g)	0.02	0.017	0.027	0.042
Sb - Antimony (ug/g)	0.004	0.003	0.005	0.004
Se - Selenium (ug/g)	4.3	5.5	9	10.5
Sn - Tin (ug/g)	0.12	0.19	0.23	0.2
Tl - Thallium (ug/g)	0.003	0.004	0.004	0.004
V - Vanadium (ug/g)	0.123	0.235	0.312	0.461
Zn - Zinc (ug/g)	75.9	86.2	118	131

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Field ID	97-3-01a-01-00-PHC-T-BC1	97-3-01a-01-00-PHC-T-H1
Lab ID	97-3-01a-01-00-PHC-T-BC1	97-3-01a-01-00-PHC-T-H1
SDG	NA	NA
File	NA	NA
Sample Type	SAMP	SAMP
Matrix	Liver Composite	Liver Composite
Sample Size	1.941 g	1.563 g
Weight Basis	DRY	DRY
Associated Blank	NA	NA
Field Date	7/10/1997	7/10/1997
Extract Date	9/13/1997	9/13/1997
Analysis Date	9/13/1997	9/13/1997
Min Reporting Limit	NA	NA
Units	---	---

METALS		
Ag - Silver (ug/g)	0.029	0.1
Al - Aluminum (%)	6.1	6.2
As - Arsenic (ug/g)	1.7	22
Ba - Barium (ug/g)	0.08	0.082
Be - Beryllium (ug/g)	0 N.D.	0 N.D.
Ca - Calcium (%)	NA	NA
Cd - Cadmium (ug/g)	1.4	4.3
Cr - Chromium (ug/g)	0.032	0.051
Cu - Copper (ug/g)	6.2	15.3
Fe - Iron (%)	433	197
Hg - Mercury (ug/g)	0.176	0.181
K - potassium (%)	NA	NA
Mg - Magnesium (%)	NA	NA
Mn - Manganese (ug/g)	2.2	3.7
Ni - Nickel (ug/g)	NA	NA
Pb - Lead (ug/g)	0.112	0.026
Sb - Antimony (ug/g)	0.003	0.003
Se - Selenium (ug/g)	3.5	6.7
Sn - Tin (ug/g)	0.12	0.22
Tl - Thallium (ug/g)	0.006	0.003
V - Vanadium (ug/g)	0.101	0.224
Zn - Zinc (ug/g)	52.5	83.1