Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper & Brass
3200-6th Ave. S
Seattle, WA 98134

LABORATORY NO 85280

DATE July 13, 1984

PO #A 3048

REPORT ON WATER

SAMPLE IDENTIFICATION Submitted 7/05/84 and identified as shown below:

1) Monthly Metro sample for heavy metals
3600 E. Marginal Way - Jane JUNE

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)
Total Chromium	.32
Total Copper	.047
Total Nickel	.26
Total Cadmium	L/.002
Total Lead	L/.005
Total Zinc	.51

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc

Mike Nelson

MN/tmm

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.

940 South Harney Street, Seattle, Washington 98108 (206) 767-5060

Certificate

Chemistry, Microbiology and Technical Services

CLIENT: Alaskan Copper & Brass
3200-6th Ave. S.
Seattle, WA 98134

LABORATORY NO 82280

DATE July 13, 1984

PO #A 3048

REPORT ON WATER

SAMPLE IDENTIFICATION: Submitted 7/05/84 and identified as shown below:

1) Monthly Metro sample for heavy metals
3600 E. Marginal Way ~~June~~ June

TESTS PERFORMED AND RESULTS:

parts per million (mg/l)

Total Chromium	.32
Total Copper	.047
Total Nickel	.25
Total Cadmium	L/.002
Total Lead	L/.005
Total Zinc	.31

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc

Mike Nelson

MN/tam

RECEIVED JUL 1984

This report is submitted for the exclusive use of the person, partnership or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper & Brass
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 85657

DATE Aug. 16, 1984

PO #3359

REPORT ON WATER

SAMPLE IDENTIFICATION Sample submitted 8-6-84 and identified as shown below:

Monthly Metro Sample - July 1984
3600 E. Marginal Way S.

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)
Chromium	0.90
Copper	0.10
Nickel	0.46
Cadmium	L/0.002
Lead	0.03
Zinc	0.91

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc.

Mike Nelson

MN:rtv

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.

940 South Harney Street, Seattle, Washington 98108 (206) 767-5060

Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper & Brass
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 86346

DATE Aug. 31, 1984

PO #A3478

REPORT ON WATER

SAMPLE IDENTIFICATION Submitted 8/22/84 and identified as shown below:

Monthly Metro Sample "3200" Aug 20, 1984

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)
Chromium	1.1
Copper	2.3
Nickel	2.2
Cadmium	L/0.002
Lead	0.13
Zinc	0.11

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

J.M. Owens

JMO:veg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 86450

DATE Sept. 7, 1984

PO #A-3602

REPORT ON CHLORETHANE SOLVENT

SAMPLE IDENTIFICATION Submitted 8/31/84 in 2 unmarked samples

TESTS PERFORMED AND RESULTS:

	1	2
Trichloroethane, parts per million (mg/L)	10.5	L/0.01

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

JMO:veg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 86541

DATE Sept. 19, 1984

PO #A-3651

REPORT ON WATER

SAMPLE IDENTIFICATION Samples submitted 9-6-84 and identified as shown below:

1) 3600 ACW
2) ACW 3200

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)	
	1	2
Chromium	0.55	—
Copper	0.10	—
Nickel	0.46	—
Cadmium	L/0.002	—
Lead	0.04	—
Zinc	0.68	—
Silver	L/0.002	—
	parts per billion (ug/L)	
Trichloroethane	L/20.	L/20.

Key

L/ indicates "less than"

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

JMO:rtv

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT
Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98134
ATTN: Jim Brown

LABORATORY NO. 86450-2

DATE Sept. 20, 1984

PO# A-3602

REPORT ON CHLORETHANE SOLVENT

SAMPLE IDENTIFICATION Submitted 8/31/84 and identified as shown below:

"TTO Test"
for 3200-6th Ave. S.

TESTS PERFORMED AND RESULTS:

Trichloroethane, parts per million (mg/L) ---------- L/0.01

Key

L/ = Less than

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

J. M. Owens

JMO:rtv

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 86982

DATE Oct. 22, 1984

PO #A-3669

REPORT ON WATER

SAMPLE IDENTIFICATION Submitted 10/11/84 and identified as shown below:

1) #1 3200-x-Ray Dryer
2) #3 3200-x-Ray Die Check Area

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)	
	1	2
Chromium	L/0.002	0.87
Copper	0.034	3.3
Nickel	L/0.01	1.3
Cadmium	L/0.002	L/0.002
Lead	L/0.01	0.10
Zinc	0.009	0.15
Silver	0.25	0.064

Key

L/ indicates "less than"

Respectfully submitted

Laucks Testing Laboratories, Inc.

J.M. Owens

JMO:veg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98134

LABORATORY NO. 86826

DATE Oct. 22, 1984

PO #A-3833

REPORT ON WATER & WASTE WATER

SAMPLE IDENTIFICATION Submitted 9/28/84 and identified as shown below:

1) Monthly Metro sample for 3600 E Marginal Way - September
2) Metro sample 9/28/84 from 3600 6th Ave. So.

TESTS PERFORMED AND RESULTS:

	parts per million (mg/L)
	1
Chromium	0.15
Copper	0.037
Nickel	0.23
Cadmium	L/0.002
Lead	0.03
Zinc	0.30
Silver	L/0.002

Sample was analyzed in accordance with 40 CFR, Part 261.24 for EP Toxicity, with result as shown below:

	concentration, mg/L	
	2	MCL
Arsenic	L/0.2	5.0
Barium	1.5	100.
Cadmium	0.06	1.0
Chromium	4.1	5.0
Lead	0.4	5.0
Mercury	L/0.01	0.2
Selenium	L/0.2	1.0
Silver	L/0.1	5.0

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P. O. Box 3546
Seattle, WA 98134
ATTN: Jim Brown

LABORATORY NO. 87073

DATE Oct. 26, 1984

PO# A4025

REPORT ON ACID SOLUTION

SAMPLE IDENTIFICATION Submitted 10/18/84 and identified as shown below:

3600 Acid Tank

TESTS PERFORMED AND RESULTS:

Specific Gravity at 73°F ---------- 1.074

Nitric Acid, % (w/w) ---------- 5.8

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

JMO:bg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124

LABORATORY NO. 87248

DATE Nov. 15, 1984

PO #A-4154

REPORT ON ACID SOLUTION

SAMPLE IDENTIFICATION Submitted 11/01/84 and identified as shown below:

1) October sump sample 3200 6th Ave. S.
2) October nitric acid sample 3200 6th Ave. S.
3) October sump sample 3600 E. Marginal Way
~~4) October nitric acid sample 619 S. Alaska (SPS)~~

TESTS PERFORMED AND RESULTS:

	1	2	3	4
Specific Gravity @ 70°F	---	1.166	1.082	---
Nitric Acid, %	---	4.5	3.7	---
	parts per million (mg/L)			
Chromium	0.42	---	---	0.010
Copper	0.15	---	---	0.016
Nickel	L/0.005	---	---	0.009
Cadmium	0.004	---	---	0.002
Lead	L/0.01	---	---	L/0.01
Zinc	0.059	---	---	2.8
Silver	L/0.005	---	---	L/0.005

Key

L/ = less than

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

JMO:veg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
3200 6th Ave. S.
Seattle, WA 98134
ATTN: Jim Brown

LABORATORY NO. 87682

DATE Dec. 10, 1984

PO #4458

REPORT ON ACID SOLUTION

SAMPLE IDENTIFICATION Submitted 12/05/84 and identified as shown below:

1) #3200 A4458 Nov.
2) #619 A4458 Nov.
3) #3600 A4458 Nov.

TESTS PERFORMED AND RESULTS:

	1	2	3
Specific Gravity @ 70°F	1.145	1.088	1.052
Nitric Acid, %	3.2	3.6	4.4

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

J.M. Owens

JMO:veg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P. O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 87684

DATE Dec. 14, 1984

PO# A4449

REPORT ON WASTE DISCHARGE

SAMPLE IDENTIFICATION Submitted 12/5/84 and identified as shown below:

ID #3200-A4449 Nov.

TESTS PERFORMED AND RESULTS:

Zinc, parts per million (mg/L)	0.16
Chromium, parts per million (mg/L)	0.84
Cyanide, parts per million (mg/L)	0.031

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

JMO:bg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

Laucks
Testing Laboratories, Inc.
940 South Harney Street, Seattle, Washington 98108 (206) 767-5060
Chemistry, Microbiology, and Technical Services

Certificate

CLIENT Alaskan Copper Works
P. O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 87683

DATE Dec. 14, 1984

PO# A4457

REPORT ON WASTE DISCHARGE

SAMPLE IDENTIFICATION Submitted 12/5/84 and identified as shown below:

ID #3600-A4457 Nov.

TESTS PERFORMED AND RESULTS:

Zinc, parts per million (mg/L) ---------- 0.62

Chromium, parts per million (mg/L) ---------- 0.63

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J. M. Owens

JMO:bg

This report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any member of its staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.