Industrial Waste Monthly Self-Monitoring Report

King County

Send to: King County Industrial Waste Program
201 S. Jackson Street, Suite 513
Seattle, WA 98104-3855
Phone 206-477-5300 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

AKC-0002937

Company Name: ALASKAN COPPER WORKS 6TH AVE. S. **Sample Site No.** A-4010 **Permit/DA No.:** 7238-06

Please Specify Month & Year: **Month:** DECEMBER **2015**

This form is available at www.kingcounty.gov/industrialwaste.

All units are mg/l unless otherwise noted. Note: For cyanide, circle test performed - amenable or total ▼

Sample Date (circle)	Sample Type C (Composite) G (grab) BC (batch)	pH Min	pH Max	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Mercury, Hg	Nickel, Ni	Silver, Ag	Zinc, Zn	Cyanide (CN) Amenable (A) or Total (T)	Nonpolar Fats, Oils, & Grease (Average of 3 grabs)	Daily Flow (GPD) Industrial	Notes (Indicate Batch Discharges)
1		10.3	10.5											696	
2		10.1	10.2											680	
(3)	C	10.0	10.1		.27	.37			.31		.05			364	
4		10.0	10.4											394	
5		———	———											———	
6		———	———											———	
7		10.1	10.2											594	
8		9.9	10.2											1922	
9		10.1	10.4											2060	
(10)	C	9.9	10.3		.40	.52					.05			1185	
11		9.8	10.0											746	
12		———	———											———	
13		———	———											———	
14		10.2	10.6											919	
15		9.7	10.2											1157	
16		9.7	10.5											875	
(17)	C	10.3	10.5		.55	1.20					.05			1735	KING CO.
18	(17TH G)	10.1	10.4		.85	1.32			1.19		.05			961	GRAB 17TH
19		———	———											———	ACW HAD
20		———	———											———	TAKEN
21		10.0	10.7											931	COMP. PRIOR
(22)	C	10.1	10.7		.38	.57			.55		.05			943	TO KING CO.
23		10.0	10.1											1245	ARRIVAL.
24		———	———											———	
25		———	———											———	
26		———	———											———	
27		———	———											———	
28		9.9	10.8											407	
29		10.2	10.6											1284	
30		10.1	10.4											826	
(31)	C	10.2	10.4		.28	.43			.35		.05			273	

Dec 2015

Monthly Min pH	9.7	& Date	12/15/15	Total Monthly Flow (gallons)	20197
Monthly Max pH	10.8	& Date	12/28/15	Maximum Daily Flow	2060 & Date 12/9/15

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested.

Signature of Principal Executive or Authorized Agent

1-8-16
Date

PLEASE CIRCLE ALL PERMIT VIOLATIONS

Due Date: **Monthly report is due by the 15th of each month.**

Industrial Waste Monthly Self-Monitoring Report

King County

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201 S. Jackson Street, Suite 513
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AKC-0002938

Company Name: ALASKAN COPPER WORKS 6TH AVE. S. **Sample Site No.** A-4010 **Permit/DA No.:** 7238-06

Please Specify Month & Year: **Month:** DECEMBER **2015** **This form is available at www.kingcounty.gov/industrialwaste.**

All units are mg/l unless otherwise noted. Note: For cyanide, circle test performed - amenable or total ▼

Sample Date (circle)	Sample Type C (Composite) G (grab) BC (batch)	pH Min	pH Max	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Mercury, Hg	Nickel, Ni	Silver, Ag	Zinc, Zn	Cyanide (CN) Amenable (A) or Total (T)	Nonpolar Fats, Oils, & Grease (Average of 3 grabs)	Daily Flow (GPD) Industrial	Notes (Indicate Batch Discharges)
1		10.3	10.5											696	
2		10.1	10.2											680	
(3)	C	10.0	10.1		.27	.37			.31		.05			364	
4		10.0	10.4											394	
5		-------	-------											----------	
6		-------	-------											----------	
7		10.1	10.2											594	
8		9.9	10.2											1922	
9		10.1	10.4											2060	
(10)	C	9.9	10.3		.40	.52			.51		.05			1185	
11		9.8	10.0											746	
12		-------	-------											----------	
13		-------	-------											----------	
14		10.2	10.6											919	
15		9.7	10.2											1157	
16		9.7	10.5											875	
(17)	C	10.3	10.5		.55	1.20			.86		.05			1735	KING CO.
18	(17TH G)	10.1	10.4		.85	1.32			1.19		.05			961	GRAB 17TH
19		-------	-------											----------	ACW HAD
20		-------	-------											----------	TAKEN
21		10.0	10.7											931	COMP. PRIOR
(22)	C	10.1	10.7		.38	.57			.55		.05			943	TO KING CO.
23		10.0	10.1											1245	ARRIVAL.
24		-------	-------											----------	
25		-------	-------											----------	
26		-------	-------											----------	
27		-------	-------											----------	
28		9.9	10.8											407	
29		10.2	10.6											1284	
30		10.1	10.4											826	
(31)	C	10.2	10.4		.28	.43			.35		.05			273	

Monthly Min pH	9.7	& Date	12/15/15
Monthly Max pH	10.8	& Date	12/28/15

Total Monthly Flow (gallons): 20197

Maximum Daily Flow: 2060 & Date: 12/9/15

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested.

Signature of Principal Executive or Authorized Agent

1-8-16
Date

PLEASE CIRCLE ALL PERMIT VIOLATIONS

Due Date: **Monthly report is due by the 15th of each month.**

King County

Industrial Waste Quarterly Self-Monitoring Report

Send to: King County Industrial Waste Program
201 S. Jackson Street, Suite 513
Seattle, WA 98104-3855
Phone 206-477-5300 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

AKC-0002939

Company Name: ALASKAN COPPER WORKS 6TH AVE. S.

This form is available at www.kingcounty.gov/industrialwaste.

Please specify year: **20_____** **QUARTER 4** **Sample Site No.:** A-40102 **Permit/DA No.:** 7238-06

All units are mg/l unless otherwise noted. Note: Write in self-monitoring parameters, if not provided, e.g. Silver (Ag); delete or ignore FOG or SS, if not required.

Month	Sample Date	Sample Type C (Composite) G (Grab) BC (Batch)	pH	Cr	Ag	Non-Polar fats, oils & grease (FOG) (Record average only)	Settleable Solids (ml/L)	Discharge Volume on sample day (gallons)	Total Monthly Flow (gallons)
October									1650
	Total volume discharged for October								
November									1425
	11/19		6.87	1.53	.303				
	Total volume discharged for November								
December									1575
	Total volume discharged for December								

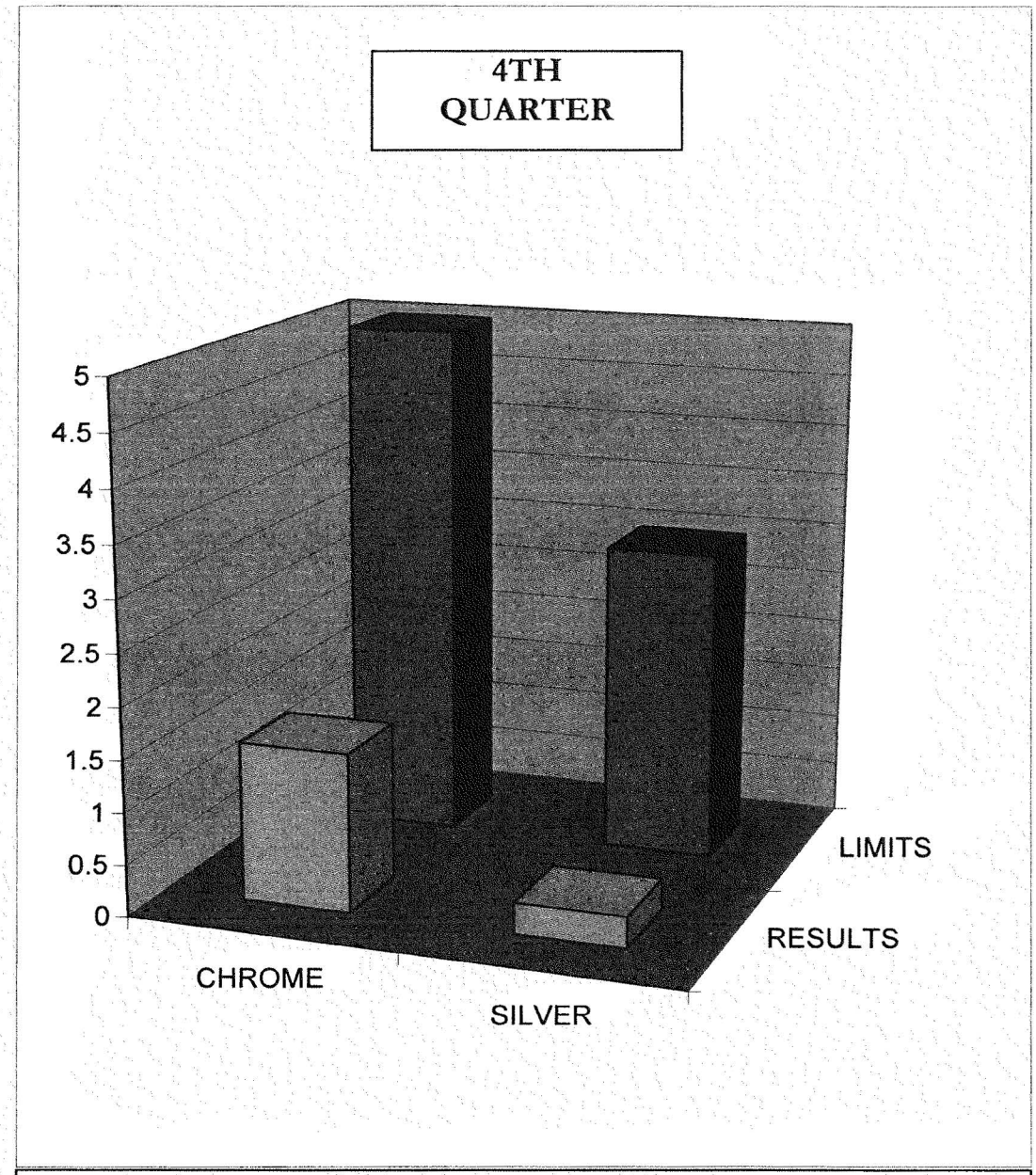
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested

Signature of Principal Executive or Authorized Agent

1-8-16
Date

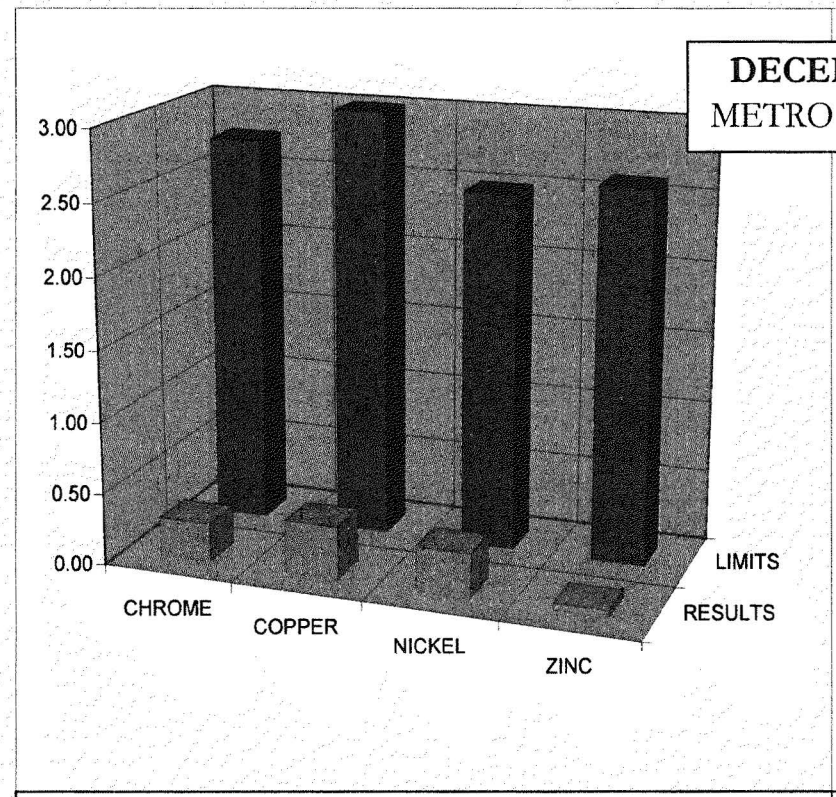
→ Maximum daily flow from this quarter: 75 **gallons.** Date on which maximum daily flow occurred: **11/19/15**

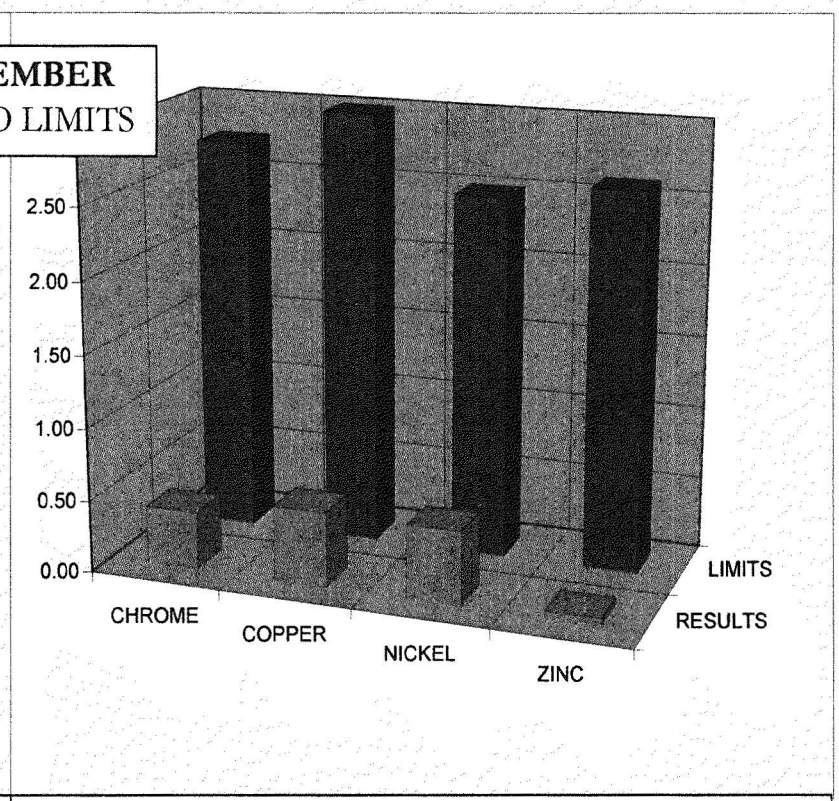
Due Date: **Fourth Quarter Report is due by January 15 of each year.**



ALASKAN COPPER WORKS
3200 X-RAY DEPT.
NOVEMBER 19, 2015
GRAB M003785

	CHROME	SILVER
RESULTS	1.53	0.30
LIMITS	5.00	3.00





ALASKAN COPPER WORKS	ALASKAN COPPER WORKS
3200 FACILITY	3200 FACILITY
DECEMBER 3, 2015	DECEMBER 10, 2015
COMPOSITE M137089	COMPOSITE M137254

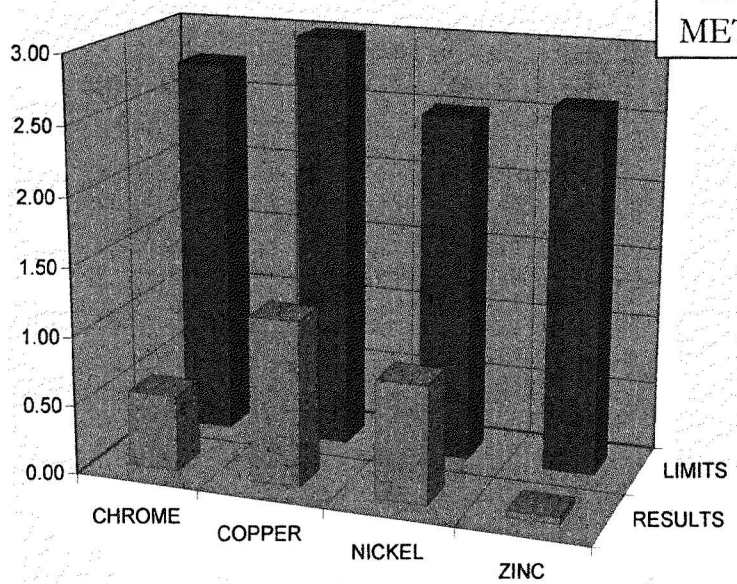
VISUAL REPRESENTATION OF THE LAB RESULTS

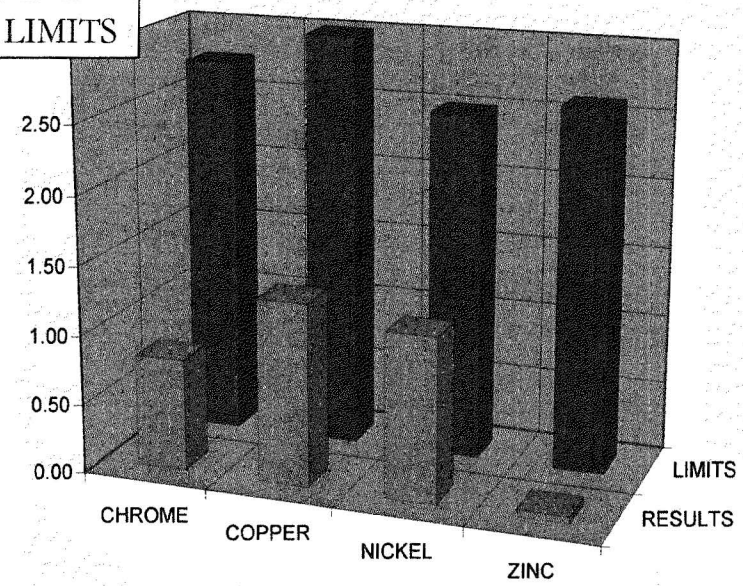
NOTE: ALL LABORATORY RESULTS HAVE BEEN CHANGED FROM **ppb** TO **ppm** FOR REPORTING PURPOSES

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.27	0.37	0.31	0.05
LIMITS	2.75	3.00	2.50	2.61

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.40	0.52	0.51	0.05
LIMITS	2.75	3.00	2.50	2.61

DECEMBER
METRO LIMITS





ALASKAN COPPER WORKS
3200 FACILITY
DECEMBER 17, 2015
COMPOSITE M137090

ALASKAN COPPER WORKS
3200 FACILITY
DECEMBER 17, 2015
K.C. GRAB M137087

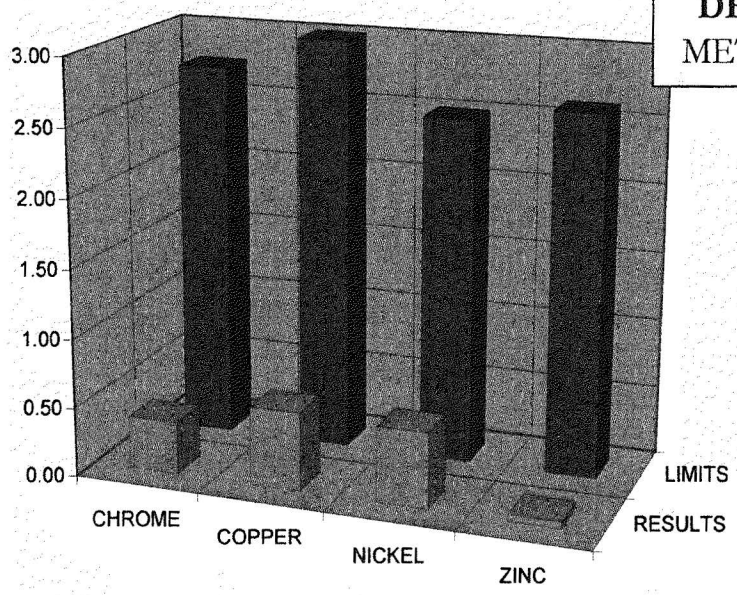
VISUAL REPRESENTATION OF THE LAB RESULTS

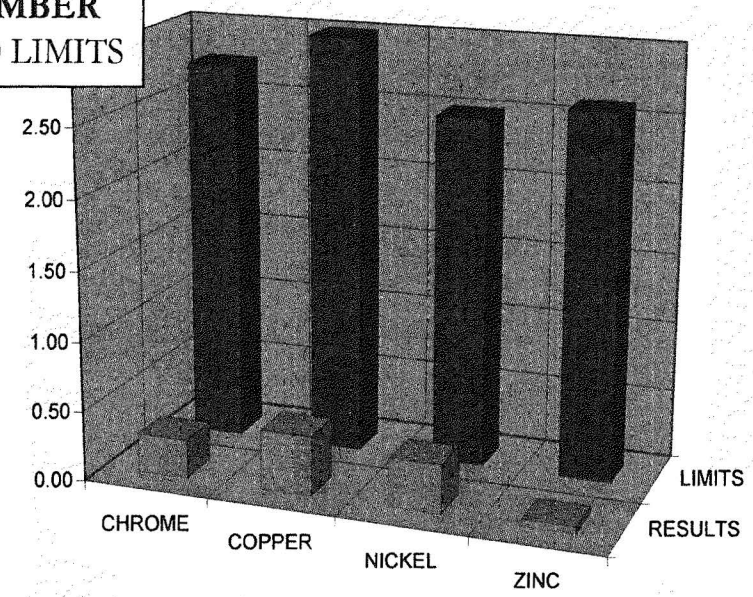
NOTE: ALL LABORATORY RESULTS HAVE BEEN CHANGED FROM **ppb** TO **ppm** FOR REPORTING PURPOSES

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.55	1.20	0.86	0.05
LIMITS	2.75	3.00	2.50	2.61

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.81	1.32	1.19	0.05
LIMITS	2.75	3.00	2.50	2.61

DECEMBER
METRO LIMITS





ALASKAN COPPER WORKS
3200 FACILITY
DECEMBER 22, 2015
K.C. COMPOSITE M137091

ALASKAN COPPER WORKS
3200 FACILITY
DECEMBER 31, 2015
COMPOSITE M003355

VISUAL REPRESENTATION OF THE LAB RESULTS

NOTE: ALL LABORATORY RESULTS HAVE BEEN CHANGED FROM **ppb** TO **ppm** FOR REPORTING PURPOSES

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.38	0.57	0.55	0.05
LIMITS	2.75	3.00	2.50	2.61

	CHROME	COPPER	NICKEL	ZINC
RESULTS	0.28	0.43	0.35	0.05
LIMITS	2.75	3.00	2.50	2.61

REF. DWG NO. 500-0007 REV. A 1594

DAILY LOG

DAY	DATE	TIME	CAUSTIC LEVEL	FLOC. LEVEL	pH READING PROCESS MONITOR	pH READING OUTPUT MONITOR	pH PAPER PROCESS MONITOR	pH PAPER OUTPUT MONITOR	FLOWMETER	CYCLES	TEMP F° LARGE TANK	TEMP F° SMALL TANK	TEMP F° OAKITE TANK	REVETMENT LARGE RINSE	REVETMENT LARGE ACID	REVETMENT SMALL TANKS	COMMENTS,PROBLEMS,& REMARKS (W/O#)
MONDAY	11-30	7 AM	18.3	11	6.41	10.28	—	—	334.9	48	126	120	126				
		3 PM	17.5	10	9.96	10.16	—	—	293.0	6	120	125	125				
		11PM	17.3	10	9.67	10.56	—	—	696.9	Ø	121	108	122				
TUESDAY	12-1	7 AM	17.3	10	9.21	10.59	—	—	696.9	3	125	127	105	?			
		3 PM	17.3	10	11.00	10.40	—	—	Ø	1	122	131	123				
		11PM	17.2	5	10.80	10.36	—	—	680.9	25	119	116	114				
WEDNESDAY	12-2	7 AM	17.2	5	10.54	10.29	—	—	680.9	25	123	127	101				
		3 PM	17.2	5	9.88	10.22	—	—	Ø	Ø	126	122	125				
		11PM	16.9	1	10.08	10.15	—	—	364.5	9	122	131	118				
THURSDAY	12-3	7 AM	16.9	1	8.14	10.10	—	—	364.5	14	126	131	103				
		3 PM	17.2	16	10.04	10.07	—	—	Ø	Ø	127	120	120				
		11PM	17.3	15	10.74	10.03	—	—	394.0	3	126	103	117				
FRIDAY	12-4	7 AM	17.3	15	8.91	10.07	—	—	394.0	7	126	121	104				
		3 PM	17.1	15	10.24	10.02	—	—	Ø	5	127	125	126				
		11PM	16.9	13	11.00	10.41	—	—	594.8	1	128	120	120				
SATURDAY																	
SUNDAY																	

\WORD\500-0007 03/01/00

AKC-0002944

REF. DWG NO. 500-0007 REV. A 1594

DAILY LOG

DAY	DATE	TIME	CAUSTIC LEVEL	FLOC. LEVEL	pH READING PROCESS MONITOR	pH READING OUTPUT MONITOR	pH PAPER PROCESS MONITOR	pH PAPER OUTPUT MONITOR	FLOWMETER	CYCLES	TEMP F° LARGE TANK	TEMP F° SMALL TANK	TEMP F° OAKITE TANK	REVETMENT LARGE RINSE	REVETMENT LARGE ACID	REVETMENT SMALL TANKS	COMMENTS,PROBLEMS,& REMARKS (W/O#)
MONDAY	12/7	7 AM	16.2	12	5.55	10.17	—	—	554.8	60	122	118	121				
		3 PM	16.4	10	9.98	10.23	—	—	170.4	Ø	116	116	123				Flow meter running 11:25 pm
		11PM	16.14	2	10.21	10.25	—	—	1922.7	2	107	104	117				
TUESDAY	12/8	7 AM	16.2	2	10.17	10.22	—	—	1922.7	2	100	97	105				
		3 PM	15.4	14	9.60	9.92	—	—	1118.6	33	119	129	125				
		11PM	15.5	11	9.74	10.00	—	—	2060.5	13	122	120	121				
WEDNESDAY	12/9	7 AM	15.5	11	6.57	10.12	—	—	2060.5	17	124	128	108				
		3 PM	15.3	10	9.66	10.24	—	—	4249	11	118	128	124				
		11PM	15.2	8	9.94	10.40	—	—	1185.2	8	121	122	119				
THURSDAY	12/10	7 AM	15.2	8	6.32	10.32	—	—	1185.2	11	128	127	107				
		3 PM	14.8	7	10.99	10.13	—	—	415.3	48	127	128	120				
		11PM	14.7	5	9.72	9.98	—	—	746.4	6	125	121	114				
FRIDAY	12/11	7 AM	14.7	5	9.21	10.02	—	—	746.4	9	126	124	103				
		3 PM	14.4	5	11.70	9.89	—	—	220.7	Ø	122	119	126				
		11PM	14.4	1	9.68	10.04	—	—	919.9	24	121	128	118				
SATURDAY																	
SUNDAY																	

..\WOUT\500-0007, 03/04/99

AKC-0002945

REF. DWG NO. 500-0007 REV. A 1594

DAILY LOG

DAY	DATE	TIME	CAUSTIC LEVEL	FLOC. LEVEL	pH READING PROCESS MONITOR	pH READING OUTPUT MONITOR	pH PAPER PROCESS MONITOR	pH PAPER OUTPUT MONITOR	FLOWMETER	CYCLES	TEMP F° LARGE TANK	TEMP F° SMALL TANK	TEMP F° OAKITE TANK	REVETMENT LARGE RINSE	REVETMENT LARGE ACID	REVETMENT SMALL TANKS	COMMENTS,PROBLEMS,& REMARKS (W/O#)
MONDAY	2/14	7 AM	14.4	1	4.21	10.27	–	–	919.9	27	118	119	120				
		3 PM	14.4	15	9.61	10.65	–	–	391.3	26	127	128	125				
		11PM	14.3	13	9.69	10.24	–	–	1157.6	11	125	125	117				
TUESDAY	2/15	7 AM	14.3	13	11.76	10.25	–	–	1157.6	22	128	128	104				
		3 PM	13.9	13	9.63	10.02	–	–	263.5	4	120	131	122				
		11PM	13.7	13	9.78	9.75	–	–	875.5	24	119	126	117				
WEDNESDAY	2/16	7 AM	13.7	13	?	9.76	–	–	875.5	27	127	122	103				
		3 PM	13.1	10	9.56	9.70	–	–	1045.5	Ø	126	130	121				
		11PM	12.6	5	9.92	10.55	–	–	1735.1	3	122	113	112				
THURSDAY	2/17	7 AM	12.6	5	?	10.50	–	–	1735.1	6	128	129	101				[illegible]
		3 PM	12.4	5	10.50	10.35	–	–	269.0	3	120	124	123				check mix Tank Motor - please
		11PM	12.2	3	10.70	10.49	–	–	961.5	2	119	124	115				
FRIDAY	2/18	7 AM	12.2	3	10.03	10.40	–	–	961.5	2	128	130	105				
		3 PM	11.8	16	10.08	10.47	–	–	450.7	29	120	127	126				
		11PM	11.6	14	11.02	10.12	–	–	931.5	Ø	119	118	119				
SATURDAY																	
SUNDAY																	

03/04/00

IT\500-0007

AKC-0002946

REF. DWG NO. 500-0007 REV. A 1594

DAILY LOG

DAY	DATE	TIME	CAUSTIC LEVEL	FLOC. LEVEL	pH READING PROCESS MONITOR	pH READING OUTPUT MONITOR	pH PAPER PROCESS MONITOR	pH PAPER OUTPUT MONITOR	FLOWMETER	CYCLES	TEMP F° LARGE TANK	TEMP F° SMALL TANK	TEMP F° OAKITE TANK	REVETMENT LARGE RINSE	REVETMENT LARGE ACID	REVETMENT SMALL TANKS	COMMENTS,PROBLEMS,& REMARKS (W/O#)
MONDAY	12/21	7 AM	11.6	14	4.71	10.09	—	—	931.5	4	126	117	120				
		3 PM	11	13	9.85	10.46	-	—	498.3	Ø	119	129	120				
		11PM	11.0	10	10.45	10.79	—	—	943.5		118	115	113				
TUESDAY	12/22	7 AM	11.0	10	10.45	10.73	—	—	943.5	8	123	128	104				
		3 PM	10.8	10	10.29	10.44	—	—	313.4	16	119	128	127				
		11PM	10.5	5	10.59	10.13	—	—	1245.4	Ø	127	126	120				
WEDNESDAY	12/23	7 AM	10.5	5	10.49	10.10	—	—	1245.5	4	127	123	120				
		3 PM	10.6	5	9.70	10.06	-	—	Ø	Ø	118	127	118				
		11PM	10.4	2	9.81	10.12	—	—	407.3	Ø	119	117	115				
THURSDAY	12/24	7 AM															
		3 PM															
		11PM															
FRIDAY	12/25	7 AM															
		3 PM															
		11PM															
SATURDAY																	
SUNDAY																	

..\WOUT\500-0007 03/04/99

AKC-0002947

REF. DWG NO. 500-0007 REV. A 1594

DAILY LOG

DAY	DATE	TIME	CAUSTIC LEVEL	FLOC. LEVEL	pH READING PROCESS MONITOR	pH READING OUTPUT MONITOR	pH PAPER PROCESS MONITOR	pH PAPER OUTPUT MONITOR	FLOWMETER	CYCLES	TEMP F° LARGE TANK	TEMP F° SMALL TANK	TEMP F° DAKITE TANK	REVETMENT LARGE RINSE	REVETMENT LARGE ACID	REVETMENT SMALL TANKS	COMMENTS,PROBLEMS,& REMARKS (W/O#)
MONDAY	12/28	7 AM	10.4	2	9.43	99.6	—	—	407.3	29	120	123	124				
		3 PM	9.5	2	9.50	10.83	—	—	475.3	1	118	121	128				
		11PM	9.3	13	11.43	10.70	—	—	1284.7	Ø	118	118	118				
TUESDAY	12/29	7 AM	9.3	13	11.80	10.65	—	—	1284.7	Ø	125	120	106				
		3 PM	8.5	13	10.25	10.28	—	—	326.4	24	126	123	118				
		11PM	8.7	10	10.00	10.59	—	—	826.3	4	126	115	110				
WEDNESDAY	12/30	7 AM	8.7	10	6.89	10.41	—	—	826.3	7	128	130	99				
		3 PM	8.4	10	11.61	10.19	—	—	Ø	6	127	125	119				
		11PM	8.4	10	9.79	10.29	—	—	273.9	Ø	122	125	111				
THURSDAY	12/31	7 AM	8.4	10	9.57	10.41	—	—	273.9	4	128	127	105				
		3 PM	8.3	10	10.40	10.26	—	—	121.8	Ø	127	118	125				
		11PM	8.0	8	10.56	10.21	—	—	658.7	Ø	128	123	120				
FRIDAY		7 AM															
		3 PM															
		11PM															
SATURDAY																	
SUNDAY																	

..\WOUT\500-0007, 03/04/99

AKC-0002948

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137089	Client:	Alaskan Copper Works
Date Received:	12/03/15	Project:	Metro Self Monitor, PO M137089
Date Extracted:	12/04/15	Lab ID:	512073-01 x10
Date Analyzed:	12/04/15	Data File:	512073-01 x10.039
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	99	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	274
Copper	374
Nickel	317
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137254	Client:	Alaskan Copper Works
Date Received:	12/10/15	Project:	Metro Self Monitoring, PO M137254
Date Extracted:	12/15/15	Lab ID:	512191-01 x10
Date Analyzed:	12/15/15	Data File:	512191-01 x10.045
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	81	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	407
Copper	527
Nickel	519
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137090	Client:	Alaskan Copper Works
Date Received:	12/17/15	Project:	Metro Self Monitor, PO M137090
Date Extracted:	12/17/15	Lab ID:	512309-01 x10
Date Analyzed:	12/17/15	Data File:	512309-01 x10.075
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	102	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	558
Copper	1,200
Nickel	860
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137087	Client:	Alaskan Copper Works
Date Received:	12/17/15	Project:	Metro KC Grab, PO M137087, F&BI 512308
Date Extracted:	12/17/15	Lab ID:	512308-01 x10
Date Analyzed:	12/17/15	Data File:	512308-01 x10.074
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	91	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	815
Copper	1,320
Nickel	1,190
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137091 Composite	Client:	Alaskan Copper Works
Date Received:	12/22/15	Project:	M137091 Metro KC Composite
Date Extracted:	12/22/15	Lab ID:	512388-01 x10
Date Analyzed:	12/23/15	Data File:	512388-01 x10.053
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	86	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	380
Copper	574
Nickel	557
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137092	Client:	Alaskan Copper Works
Date Received:	12/31/15	Project:	Metro Self Monitor, M137092
Date Extracted:	01/04/16	Lab ID:	512488-01 x10
Date Analyzed:	01/05/16	Data File:	512488-01 x10.019
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	94	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	289
Copper	439
Nickel	351
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/01/15
Date Received: 11/19/15
Project: X-Ray Self Monitor, PO M003785, F&BI 511270
Date Extracted: NA
Date Analyzed: 11/23/15

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR pH USING EPA METHOD 9040C

Sample ID Laboratory ID	pH	Date Analyzed	Time Analyzed
M003785 511270-01	6.87	11/23/15	11:30

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

AMTEST LABORATORIES

Professional Analytical Services

Dec 15 2015
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
M136025	Soil	15-A019854	CONV

Your sample was received on Friday, December 11, 2015. At the time of receipt, the sample was logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to conact me.

Sincerely,

Aaron W Young

Aaron W. Young
Laboratory Manager

Project #: 511271
PO Number: D-764

BACT = Bacteriological
CONV = Conventionals
MET = Metals
ORG = Organics
NUT=Nutrients
DEM=Demand
MIN=Minerals

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

AMTEST LABORATORIES

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project #: 511271
PO Number: D-764
All results reported on an as received basis.

Date Received: 12/11/15
Date Reported: 12/15/15

AMTEST Identification Number **15-A019854**
Client Identification **M136025**
Sampling Date **11/19/15, 12:40**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Cyanide	< 0.005	mg/l		0.005	EPA 335.4	TN	12/15/15
Cyanide Amenable	< 0.005	mg/l		0.005	SM 4500CN-G99	TN	12/15/15

Aaron W. Young
Laboratory Manager

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M137088	Client:	Alaskan Copper Works
Date Received:	12/18/15	Project:	KC Metro Grab, PO M137088, F&BI 512334
Date Extracted:	12/21/15	Lab ID:	512334-01 x10
Date Analyzed:	12/21/15	Data File:	512234-01 x10.059
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	95	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	514
Copper	834
Nickel	743
Zinc	<50

VOID PER King County Comp. Sample Baiw/Sondzw

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	M136025	Client:	Alaskan Copper Works
Date Received:	11/19/15	Project:	Foo6 Sludge, PO M136025
Date Extracted:	11/19/15	Lab ID:	511271-01
Date Analyzed:	11/20/15	Data File:	511271-01.022
Matrix:	Water	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	99	60	125
Indium	99	60	125
Holmium	103	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Arsenic	<1	5.0
Barium	<1	100
Cadmium	<1	1.0
Chromium	<1	5.0
Lead	<1	5.0
Mercury	<0.1	0.2
Selenium	<1	1.0
Silver	<1	5.0