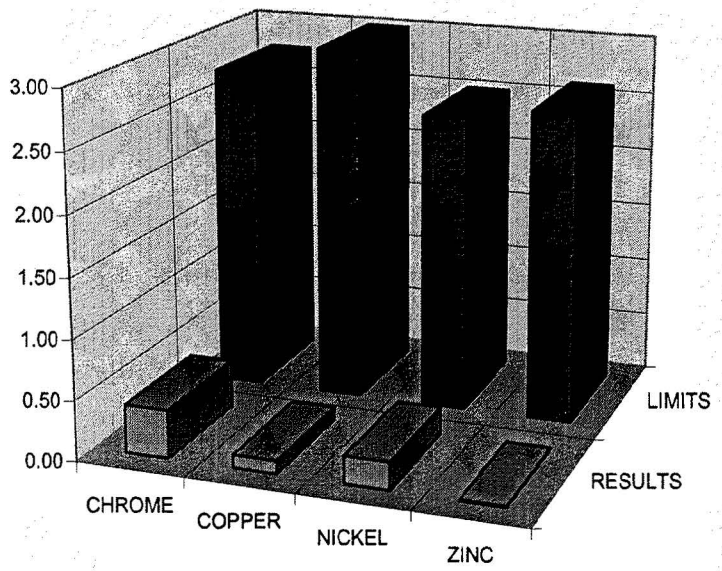
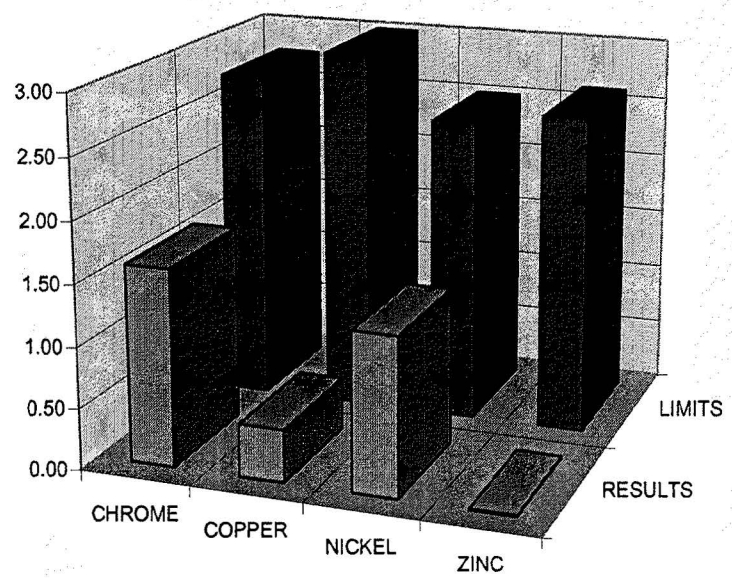
# APRIL
# METRO LIMITS




**ALASKAN COPPER WORKS**
3200 FACILITY
APRIL 19, 2007
COMPOSITE M00222




**ALASKAN COPPER WORKS**
3200 FACILITY
APRIL 26, 2007
COMPOSITE M116303

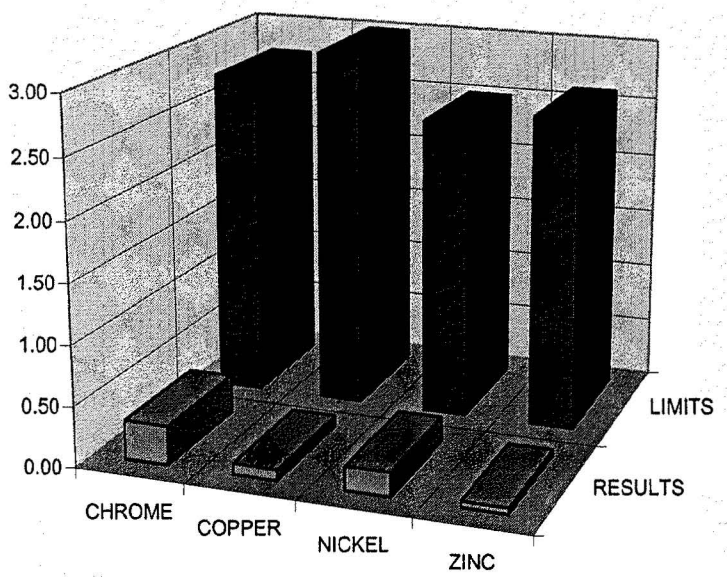
VISUAL REPRESENTATION OF THE LAB RESULTS

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

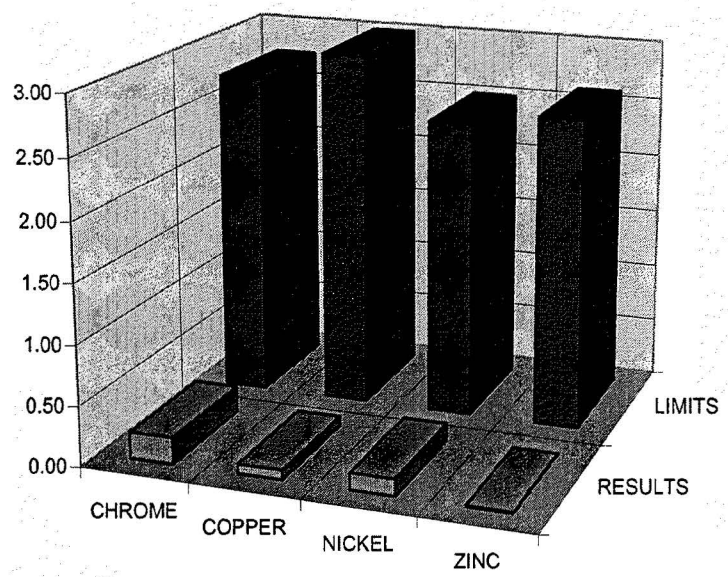
| | CHROME | COPPER | NICKEL | ZINC |
|---|---|---|---|---|
| RESULTS | 0.40 | 0.11 | 0.23 | 0.01 |
| LIMITS | 2.75 | 3.00 | 2.50 | 2.61 |

| | CHROME | COPPER | NICKEL | ZINC |
|---|---|---|---|---|
| RESULTS | 1.61 | 0.43 | 1.29 | 0.01 |
| LIMITS | 2.75 | 3.00 | 2.50 | 2.61 |

**APRIL**
METRO LIMITS




**ALASKAN COPPER WORKS**
3200 FACILITY
APRIL 5, 2007
COMPOSITE M116124




**ALASKAN COPPER WORKS**
3200 FACILITY
APRIL 12, 2007
COMPOSITE M00195

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 | 0.32 | 0.09 | 0.20 | 0.05 |
| LIMITS | 2.75 | 3.00 | 2.50 | 2.61 |

| | CHROME | COPPER | NICKEL | ZINC |
|---|---|---|---|---|
| RESULTS | 0.22 | 0.08 | 0.14 | 0.01 |
| LIMITS | 2.75 | 3.00 | 2.50 | 2.61 |

# Industrial Waste Monthly Self-Monitoring Report

Mail or FAX to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001

AKC-0006932

**Company Name:** ALASKAN COPPER WORKS **Sample Site No.** A-4010 **Permit/DA No.:** 7238

***Please Specify Month & Year:*** **Month** APRIL **2007** **This form is available at** http://dnr.metrokc.gov/wlr/indwaste

**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) | NP Fats, Oils, and Grease (Average of 3 grabs) | | Flow (GPD) Industrial | Notes (Indicate Batch Discharges) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 2 | | 9.7 | 11.6 | | | | | | | | | | | | 1472 | |
| 3 | | 9.4 | 9.7 | | | | | | | | | | | | 1071 | |
| 4 | | 9.3 | 9.4 | | | | | | | | | | | | 2783 | |
| 5 | C | 9.1 | 9.2 | | .32 | .09 | | | .20 | | .05 | | | | 2275 | |
| 6 | | 9.2 | 10.7 | | | | | | | | | | | | 2639 | |
| 7 | | 9.2 | 10.4 | | | | | | | | | | | | 2009 | |
| 8 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 9 | | 9.9 | 10.3 | | | | | | | | | | | | 1573 | |
| 10 | | 10.0 | 10.7 | | | | | | | | | | | | 2687 | |
| 11 | | 9.9 | 9.9 | | | | | | | | | | | | 2653 | |
| 12 | C | 10.0 | 10.3 | | .22 | .08 | | | .14 | | .01 | | | | 2134 | |
| 13 | | 10.1 | 10.3 | | | | | | | | | | | | 1488 | |
| 14 | | 9.9 | 10.1 | | | | | | | | | | | | 1996 | |
| 15 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 16 | | 9.8 | 10.3 | | | | | | | | | | | | 1378 | |
| 17 | | 9.9 | 10.4 | | | | | | | | | | | | 2516 | |
| 18 | | 10.2 | 10.8 | | | | | | | | | | | | 1912 | |
| 19 | C | 10.5 | 10.7 | | .40 | .11 | | | .23 | | .01 | | | | 1801 | |
| 20 | | 10.5 | 10.9 | | | | | | | | | | | | 1466 | |
| 21 | | 10.8 | 10.9 | | | | | | | | | | | | 1809 | |
| 22 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 23 | | 10.5 | 10.8 | | | | | | | | | | | | 1074 | |
| 24 | | 10.6 | 10.7 | | | | | | | | | | | | 2078 | |
| 25 | | 10.5 | 10.9 | | | | | | | | | | | | 1743 | |
| 26 | C | 10.8 | 11.4 | | 1.61 | .43 | | | 1.29 | | .01 | | | | 1950 | |
| 27 | | 10.8 | 10.9 | | | | | | | | | | | | 1917 | |
| 28 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 29 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 30 | | 10.4 | 10.6 | | | | | | | | | | | | 1800 | |
| 31 | ---------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | ---------- | ---------- | -- | ---------- | ---------- |

| | | | |
|---|---|---|---|
| Monthly Min pH | 9.1 | & Date | 4-5 |
| Monthly Max pH | 11.6 | & Date | 4-2 |

Total Monthly Flow (gallons) 46224
Maximum Daily Flow 2783 & Date 4-4

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 — Date 5/11/07

**PLEASE CIRCLE ALL PERMIT VIOLATIONS**

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

# Industrial Waste Monthly Self-Monitoring Report

Mail or FAX to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001

AKC-0006933

**Company Name:** ALASKAN COPPER WORKS **Sample Site No.** A-4009 **Permit/DA No.:** 7201

***Please Specify Month & Year:*** **Month** APRIL **2007**

**This form is available at http://dnr.metrokc.gov/wlr/indwaste**

**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) | NP Fats, Oils, and Grease (Average of 3 grabs) | | Flow (GPD) Industrial | Notes (Indicate Batch Discharges) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
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| 30 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |

NOT IN USE THIS MONTH

| | | | | | |
|---|---|---|---|---|---|
| Monthly Min pH | | & Date | | Total Monthly Flow (gallons) | |
| Monthly Max pH | | & Date | | Maximum Daily Flow | & Date |

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 — Date 5/11/07

**PLEASE CIRCLE ALL PERMIT VIOLATIONS**

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

# Industrial Waste Monthly Self-Monitoring Report

Mail or FAX to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001

AKC-0006934

**Company Name:** ALASKAN COPPER WORKS **Sample Site No.** A-4009 **Permit/DA No.:** 7201

***Please Specify Month & Year:*** **Month** APRIL **2007**

**This form is available at http://dnr.metrokc.gov/wlr/indwaste**

**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) | NP Fats, Oils, and Grease (Average of 3 grabs) | | Flow (GPD) Industrial | Notes (Indicate Batch Discharges) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | |
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| 29 | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |

NOT IN USE THIS MONTH

| | | | | | |
|---|---|---|---|---|---|
| Monthly Min pH | | & Date | | Total Monthly Flow (gallons) | |
| Monthly Max pH | | & Date | | Maximum Daily Flow | & Date |

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 — Date 5/11/07

**PLEASE CIRCLE ALL PERMIT VIOLATIONS**

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

# Industrial Waste Monthly Self-Monitoring Report

Mail or FAX to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001

AKC-0006935

**Company Name:** ALASKAN COPPER WORKS **Sample Site No.** A-4010 **Permit/DA No.:** 7238

***Please Specify Month & Year:*** **Month** APRIL **2007**

**This form is available at http://dnr.metrokc.gov/wlr/indwaste**

**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) | NP Fats, Oils, and Grease (Average of 3 grabs) | | Flow (GPD) Industrial | Notes (Indicate Batch Discharges) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 2 | | 9.7 | 11.6 | | | | | | | | | | | | 1472 | |
| 3 | | 9.4 | 9.7 | | | | | | | | | | | | 1071 | |
| 4 | | 9.3 | 9.4 | | | | | | | | | | | | 2783 | |
| 5 | C | 9.1 | 9.2 | | .32 | .09 | | | .20 | | .05 | | | | 2275 | |
| 6 | | 9.2 | 10.7 | | | | | | | | | | | | 2639 | |
| 7 | | 9.2 | 10.4 | | | | | | | | | | | | 2009 | |
| 8 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 9 | | 9.9 | 10.3 | | | | | | | | | | | | 1573 | |
| 10 | | 10.0 | 10.7 | | | | | | | | | | | | 2687 | |
| 11 | | 9.9 | 9.9 | | | | | | | | | | | | 2653 | |
| 12 | C | 10.0 | 10.3 | | .22 | .08 | | | .14 | | .01 | | | | 2134 | |
| 13 | | 10.1 | 10.3 | | | | | | | | | | | | 1488 | |
| 14 | | 9.9 | 10.1 | | | | | | | | | | | | 1996 | |
| 15 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 16 | | 9.8 | 10.3 | | | | | | | | | | | | 1378 | |
| 17 | | 9.9 | 10.4 | | | | | | | | | | | | 2516 | |
| 18 | | 10.2 | 10.8 | | | | | | | | | | | | 1912 | |
| 19 | C | 10.5 | 10.7 | | .40 | .11 | | | .23 | | .01 | | | | 1801 | |
| 20 | | 10.5 | 10.9 | | | | | | | | | | | | 1466 | |
| 21 | | 10.8 | 10.9 | | | | | | | | | | | | 1809 | |
| 22 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 23 | | 10.5 | 10.8 | | | | | | | | | | | | 1074 | |
| 24 | | 10.6 | 10.7 | | | | | | | | | | | | 2078 | |
| 25 | | 10.5 | 10.9 | | | | | | | | | | | | 1743 | |
| 26 | C | 10.8 | 11.4 | | 1.61 | .43 | | | 1.29 | | .01 | | | | 1950 | |
| 27 | | 10.8 | 10.9 | | | | | | | | | | | | 1917 | |
| 28 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 29 | | -------- | -------- | | | | | | | | | | | | ---------- | |
| 30 | | 10.4 | 10.6 | | | | | | | | | | | | 1800 | |
| 31 | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -------- | -- | ---------- | ---------- |

| | | | |
|---|---|---|---|
| Monthly Min pH | 9.1 | & Date | 4-5 |
| Monthly Max pH | 11.6 | & Date | 4-2 |

| | | | |
|---|---|---|---|
| Total Monthly Flow (gallons) | 46224 | | |
| Maximum Daily Flow | 2783 | & Date | 4-4 |

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

5/11/07
Date

**PLEASE CIRCLE ALL PERMIT VIOLATIONS**

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

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 | 4-2 | 7 AM | 18.8 | 10 | 11.25 | 11.68 | — | — | 1472 | 44 | 112 | 120 | 112 | | | | |
| | | 3 PM | 18.6 | 5 | 9.80 | 9.79 | — | — | 3306 | 64 | 115 | 126 | 110 | | | | |
| | | 11PM | 17.5 | 18 | 11.21 | 9.80 | — | — | 4041 | 100 | 118 | 115 | 121 | | | | |
| TUESDAY | 4-3 | 7 AM | 17.5 | 17 | 9.93 | 9.76 | — | — | 1071 / 4877 | 51 / 115 | 117 | 122 | 111 | | | | 115 / 64 / 51 |
| | | 3 PM | 16.9 | 14 | 10.97 | 9.47 | — | — | 1030 | 26 | 116 | 117 | 94 | | | | |
| | | 11PM | 16.2 | 10 | 9.84 | 9.42 | — | — | 2368 | 61 | 120 | 118 | 113 | | | | |
| WEDNESDAY | 4-4 | 7 AM | 15.9 | 10 | 11.38 | 9.31 | — | — | 2783 | 81 | 115 | 124 | 102 | | | | |
| | | 3 PM | 15.4 | 8 | 11.53 | 9.42 | — | — | 888 | 39 | 120 | 125 | 93 | | | | |
| | | 11PM | 14.9 | 5 | 11.00 | 9.49 | — | — | 2104 | 71 | 122 | 92 | 113 | | | | |
| THURSDAY | 4-5 | 7 AM | 14.6 | 4 | 10.84 | 9.24 | — | — | 2275 | 86 | 115 | 125 | 106 | | | | forgot to reset flow |
| | | 3 PM | 14.0 | 15 | 11.98 | 9.24 | — | — | 3879 | 24 | 123 | 120 | 96 | | | | |
| | | 11PM | 13.7 | 10 | 9.76 | 9.16 | — | — | 4799 | 40 | 127 | 128 | 114 | | | | |
| FRIDAY | 4-6 | 7 AM | 13.5 | 10 | 10.69 | 10.74 | — | — | 2639 / 4914 | 55 | 117 | 123 | 111 | | | | 861 / 4914 / 2275 / 2639 forgot to reset flow |
| | | 3 PM | 12.9 | 7 | 11.75 | 9.90 | — | — | 5963 | 83 | 125 | 125 | 100 | | | | |
| | | 11PM | 12.5 | 2 | 9.54 | 9.23 | — | — | 6923 | 98 | 127 | 132 | 118 | | | | |
| SATURDAY | 4-7 | 8[illegible] | 12.5 | 2 | 12.15 | 8am 8.29 | — | — | 2009 | 43 | 113 | 114 | 111 | | | | |
| | | 4[illegible] | 11.5 | 13 | 9.92 | 10.47 | — | — | 1388 | 41 | 113 | 133 | 100 | | | | |
| | | | | | | | | | | | | | | | | | |
| SUNDAY | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

AKC-0006936

T:\WOUT\500-0007, 03/04/99

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 | 4-9 | 7 AM | 11.5 | 13 | 9.72 | 10.30 | — | — | 1573 | 15 | 114 | 130 | 102 | | | | Forgot to Reset Flow |
| | | 3 PM | 11.0 | 22 | 10.20 | 9.93 | — | — | 3553 | 100 | 114 | 129 | 94 | | | | |
| | | 11PM | 10.5 | 18 | 9.62 | 10.03 | — | — | 3971 | 118 | 118 | 130 | 114 | | | | |
| TUESDAY | 4-10 | 7 AM | 10.1 | 18 | 10.50 | 10.04 | — | — | 2687 / 4260 | 137 | 118 | 113 | 110 | | | | 4260 − 1573 = 2687 |
| | | 3 PM | 10.0 | 15 | 9.96 | 10.76 | — | — | 1202 | 31 | 116 | 122 | 98 | | | | |
| | | 11PM | 9.5 | 10 | 9.82 | 10.14 | — | — | 2058 | 63 | 118 | 131 | 118 | | | | |
| WEDNESDAY | 4-11 | 7 AM | 9.3 | 9 | 10.20 | 9.96 | — | — | 2653 | 80 | 101 | 121 | 108 | | | | |
| | | 3 PM | 9.0 | 7 | 9.71 | 9.93 | — | — | 1192 | 24 | 106 | 120 | 99 | | | | |
| | | 11PM | 8.5 | 5 | 11.58 | 9.97 | — | — | 1897 | 57 | 110 | 120 | 120 | | | | |
| THURSDAY | 4-12 | 7 AM | 8.5 | 5 | 9.90 | 10.01 | — | — | 2134 | 61 | 100 | 115 | 112 | | | | |
| | | 3 PM | 8.0 | 20 | 11.65 | 10.25 | — | — | 869 | 26 | 108 | 121 | 100 | | | | |
| | | 11PM | 8.0 | 17 | 11.14 | 10.38 | — | — | 1412 | 48 | 113 | 124 | 118 | | | | |
| FRIDAY | 4-13 | 7 AM | 8.0 | 17 | 11.62 | 10.32 | — | — | 1488 | 50 | 102 | 121 | 113 | | | | Forgot to Reset Slow? Cycles |
| | | 3 PM | 7.5 | 12 | 10.80 | 10.35 | — | — | 2464 | 78 | 115 | 121 | 101 | | | | |
| | | 11PM | 7.0 | 8 | 10.53 | 10.15 | — | — | 3284 | 102 | 116 | 138 | 119 | | | | |
| SATURDAY | | 8:30 am | 7.0 | 8 | 9.58 | 10.10 | — | — | 1946 / 3484 | 52 | 105 | 116 | 108 | | | | |
| | | 4:15 | 6.7 | 5 | 9.92 | 9.99 | — | — | 1041 | 46 | 121 | 118 | 104 | | | | |
| | | | | | | | | | | | | | | | | | |
| SUNDAY | | | | | | | | | | | | | | | | | |
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AKC-0006937

C:\WOUT\500-0007, 03/04/99

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 | 4-16 | 7 AM | 6.0 | 3 | 11.25 | 9.87 | — | — | 1578 | 78 | 107 | 122 | 99 | | | | |
| | | 3 PM | 5.7 | 15 | 10.02 | 10.37 | — | — | 1308 | 37 | 120 | 143 | 97 | | | | |
| | | 11PM | 4.9 | 13 | 11.54 | 9.99 | — | — | 2303 | 70 | 124 | 121 | 114 | | | | |
| TUESDAY | 4-17 | 7 AM | 4.5 | 13 | 9.78 | 9.98 | — | — | 2516 | 70 | 119 | 132 | 106 | | | | |
| | | 3 PM | 4.6 | 10 | 10.07 | 10.33 | — | — | 735 | 22 | 126 | 119 | 96 | | | | |
| | | 11PM | 4.4 | 7 | 11.47 | 10.40 | — | — | 1730 | 43 | 121 | 118 | 114 | | | | |
| WEDNESDAY | 4-18 | 7 AM | 4.4 | 7 | 9.84 | 10.28 | — | — | 1912 | 43 | 125 | 117 | 108 | | | | Forgot to Reset Flow & Cycles |
| | | 3 PM | 3.9 | 18 | 10.25 | 10.88 | — | — | 2886 | 63 | 124 | 121 | 96 | | | | |
| | | 11PM | 3.4 | 16 | 11.52 | 10.76 | — | — | 3484 | 95 | 125 | 125 | 93 | | | | |
| THURSDAY | 4-19 | 7 AM | 3.4 | 16 | 11.45 | 10.71 | — | — | 3713 | 98 | 115 | 130 | 94 | | | | |
| | | 3 PM | 3.1 | 15 | 10.70 | 10.74 | — | — | 438 | 18 | 127 | 120 | 109 | | | | |
| | | 11PM | 2.8 | 12 | 9.95 | 10.54 | — | — | 1265 | 41 | 119 | 127 | 100 | | | | |
| FRIDAY | 4-20 | 7 AM | 2.6 | 12 | 11.63 | 10.55 | — | — | 1466 | 48 | 111 | 118 | 91 | | | | |
| | | 3 PM | 2.3 | 10 | 10.68 | 10.56 | — | — | 831 | 24 | 123 | 121 | 100 | | | | |
| | | 11PM | 1.5 | 8 | 10.37 | 10.91 | — | — | 1809 | 65 | 126 | 125 | 113 | | | | |
| SATURDAY | | 8 AM | 1.3 | 8 | 11.90 | 10.84 | — | — | 1809 | 74 | 116 | 108 | 91 | | | | |
| | | 4:15 | 1.0 | 5 | 10.64 | 10.91 | — | — | 1074 | 24 | 120 | 121 | 108 | | | | |
| | | | | | | | | | | | | | | | | | |
| SUNDAY | | | | | | | | | | | | | | | | | |
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C:\WOUT\500-0007, 03/04/99

AKC-0006938

AKC-0006939

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 | 4-23 | 7 AM | 102 | 5 | 11.77 | 10.54 | — | — | 1074 | 42 | 128 | 140 | 95 | | | | |
| | | 3 PM | 30.0 | 3 | 10.03 | 10.67 | — | — | 1242 | 6 | 120 | 113 | 109 | | | | |
| | | 11PM | 29.7 | 14 | 10.27 | 10.84 | — | — | 2078 | 25 | 123 | 135 | 120 | | | | |
| TUESDAY | 4-24 | 7 AM | 29.7 | 14 | 11.15 | 10.79 | — | — | 2078 | 31 | 125 | 123 | 103 | | | | |
| | | 3 PM | 29.1 | 10 | 10.83 | 10.75 | — | — | 1027 | 30 | 120 | 123 | 109 | | | | |
| | | 11PM | 28.8 | 9 | 11.09 | 10.66 | — | — | 1743 | 51 | imp | 129 | 117 | | | | |
| WEDNESDAY | 4-25 | 7 AM | 28.6 | 9 | 11.91 | 10.55 | — | — | 1743 | 61 | 8ur | 117 | 103 | | | | |
| | | 3 PM | 28.0 | 7 | 11.87 | 10.87 | — | — | 847 | 18 | 109 | 134 | 111 | | | | |
| | | 11PM | 27.5 | 5 | 10.97 | 10.94 | — | — | 1950 | 53 | 121 | 118 | 118 | | | | |
| THURSDAY | 4-26 | 7 AM | 27.2 | 5 | 11.31 | 10.89 | — | — | 1950 | 65 | 115 | 118 | 103 | | | | |
| | | 3 PM | 26.7 | 2 | 10.87 | 11.17 | — | — | 896 | 16 | 120 | 126 | 112 | | | | |
| | | 11PM | 26.5 | 15 | 11.40 | 10.97 | — | — | 1917 | 38 | 123 | 129 | 120 | | | | |
| FRIDAY | 4-27 | 7 AM | 26.5 | 15 | 9.80 | 10.91 | — | — | 1917 | 42 | 122 | 119 | 105 | | | | |
| | | 3 PM | 26.0 | 13 | 10.57 | 10.86 | — | — | 775 | 23 | 126 | 128 | 114 | | | | |
| | | 11PM | 25.5 | 11 | 10.61 | 10.82 | — | — | 1800 | 45 | 119 | 131 | 121 | | | | |
| SATURDAY | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| SUNDAY | | | | | | | | | | | | | | | | | |
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T:\WOUT\500-0007, 03/04/99

AKC-0006940

Date of Report: 04/11/07
Date Received: 04/05/07
Project: % of Acid, PO# M116125, F&BI 704056
Date Analyzed: 04/05/07

## RESULTS FR OM THE ANALYSIS OF AQUEOUS SAMPLES FOR PERCENT ACID

| Sample ID<br>Laboratory ID | Percent Acid |
|---|---|
| M116125A Lg Tank<br>704056-01 | 10.7 |
| M116125B Sm Tank<br>704056-02 | 6.48 |

DRAFT

## Analysis For Total Metals By EPA Method 200.8

| | | | |
|---|---|---|---|
| Client ID: | M116124 | Client: | Alaskan Copper Works |
| Date Received: | 04/05/07 | Project: | PO# M116124, F&BI 704055 |
| Date Extracted: | 04/09/07 | Lab ID: | 704055-01 x10 |
| Date Analyzed: | 04/09/07 | Data File: | 704055-01 x10.075 |
| Matrix: | Water | Instrument: | ICPMS1 |
| Units: | ug/L (ppb) | Operator: | HR |

| Internal Standard: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| Germanium | 64 | 60 | 125 |

| Analyte: | Concentration ug/L (ppb) |
|---|---|
| Chromium | 320 |
| Nickel | 205 |
| Copper | 95.8 |
| Zinc | 53.6 |

DRAFT

## Analysis For Total Metals By EPA Method 200.8

| | | | |
|---|---|---|---|
| Client ID: | M116125A Lg Tank | Client: | Alaskan Copper Works |
| Date Received: | 04/05/07 | Project: | PO# M116125, F&BI 704056 |
| Date Extracted: | 04/09/07 | Lab ID: | 704056-01 x10,000 |
| Date Analyzed: | 04/09/07 | Data File: | 704056-01 x10,000.087 |
| Matrix: | Water | Instrument: | ICPMS1 |
| Units: | ug/L (ppb) | Operator: | HR |

| Internal Standard: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| Germanium | 68 | 60 | 125 |
| Indium | 71 | 60 | 125 |
| Bismuth | 110 | 60 | 125 |

| Analyte: | Concentration ug/L (ppb) |
|---|---|
| Chromium | 13,400,000 |
| Nickel | 13,100,000 |
| Copper | 1,910,000 |
| Zinc | 95,100 |
| Arsenic | 12,900 |
| Silver | <10,000 |
| Cadmium | <10,000 |
| Lead | <10,000 |
| Iron (screen) | 54,600,000 |

DRAFT

# Analysis For Total Metals By EPA Method 200.8

| | | | |
|---|---|---|---|
| Client ID: | M116125B Sm Tank | Client: | Alaskan Copper Works |
| Date Received: | 04/05/07 | Project: | PO# M116125, F&BI 704056 |
| Date Extracted: | 04/09/07 | Lab ID: | 704056-02 x5000 |
| Date Analyzed: | 04/09/07 | Data File: | 704056-02 x5000.086 |
| Matrix: | Water | Instrument: | ICPMS1 |
| Units: | ug/L (ppb) | Operator: | HR |

| Internal Standard: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| Germanium | 65 | 60 | 125 |
| Indium | 70 | 60 | 125 |
| Bismuth | 109 | 60 | 125 |

| Analyte: | Concentration ug/L (ppb) |
|---|---|
| Chromium | 846,000 |
| Nickel | 1,640,000 |
| Copper | 985,000 |
| Zinc | 6,870 |
| Arsenic | <5,000 |
| Silver | <5,000 |
| Cadmium | <5,000 |
| Lead | 7,540 |
| Iron (screen) | 5,900,000 |

DRAFT

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

## TRANSMITTAL

DATE: 4/11/07

TO: Gary

COMPANY: Alacka Copper PROJECT ID:

FAX #: 382.4309 PHONE #:

FROM: Mike

We are sending you the following:

| # Pages/Documents (Including cover sheet) | Description |
|---|---|
| 5 | Count Results. Specific Gravity is still pending — |
| | Results should be late today — |
| | |
| | |

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☐ For your use ☐ For review and comment ☐ For your signature and return

☐ As requested ☐ As noted ☐ Other

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# FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 200.8

| | | | |
|---|---|---|---|
| Client ID: | M109206A Lg tank | Client: | Alaskan Copper Works |
| Date Received: | 11/30/06 | Project: | PO# M109206, F&BI 611340 |
| Date Extracted: | 12/05/06 | Lab ID: | 611340-01 10000x |
| Date Analyzed: | 12/05/06 | Data File: | 611340-01 10000x.016 |
| Matrix: | Water | Instrument: | ICPMS1 |
| Units: | ug/L (ppb) | Operator: | btb |

| Internal Standard: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| Germanium | 93 | 60 | 125 |
| Indium | 90 | 60 | 125 |
| Holmium | 89 | 60 | 125 |

| Analyte: | Concentration ug/L (ppb) |
|---|---|
| Chromium | 6,760,000 |
| Nickel | 5,920,000 |
| Copper | 978,000 |
| Zinc | 10,200 |
| Arsenic | <10,000 |
| Silver | <10,000 |
| Cadmium | <10,000 |
| Lead | <10,000 |
| Iron (screen) | 29,950,000 |

# FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 200.8

| | | | |
|---|---|---|---|
| Client ID: | M109206B Sm tank | Client: | Alaskan Copper Works |
| Date Received: | 11/30/06 | Project: | PO# M109206, F&BI 611340 |
| Date Extracted: | 12/05/06 | Lab ID: | 611340-02 10000x |
| Date Analyzed: | 12/05/06 | Data File: | 611340-02 10000x.017 |
| Matrix: | Water | Instrument: | ICPMS1 |
| Units: | ug/L (ppb) | Operator: | btb |

| Internal Standard: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| Germanium | 95 | 60 | 125 |
| Indium | 91 | 60 | 125 |
| Holmium | 90 | 60 | 125 |

| Analyte: | Concentration ug/L (ppb) |
|---|---|
| Chromium | 6,810,000 |
| Nickel | 15,500,000 |
| Copper | 18,500,000 |
| Zinc | 43,000 |
| Arsenic | <10,000 |
| Silver | <10,000 |
| Cadmium | <10,000 |
| Lead | 14,400 |
| Iron (screen) | 33,400,000 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/10/06
Date Received: 03/06/06
Project: % of Acid, PO# M98260, F&BI 603044
Date Extracted: 03/08/06
Date Analyzed: 03/08/06

**RESULTS FROM THE ANALYSIS OF AQUEOUS SAMPLES FOR METALS SCAN BY INDUCTIVELY COUPLED PLASMA (ICP) MASS SPECTROSCOPY**

The Metals Were Found at the Approximate Levels Indicated
Results Reported as mg/L (ppm)

Sample ID: M98260A
Laboratory ID: 603044-01

| | |
|---|---|
| Chromium | 12,400 |
| Nickel | 33,000 |
| Copper | 34,000 |
| Zinc | 100 |
| Iron | 46,700 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/10/06
Date Received: 03/06/06
Project: % of Acid, PO# M98260, F&BI 603044
Date Extracted: 03/08/06
Date Analyzed: 03/08/06

**RESULTS FROM THE ANALYSIS OF AQUEOUS SAMPLES FOR METALS SCAN BY INDUCTIVELY COUPLED PLASMA (ICP) MASS SPECTROSCOPY**

The Metals Were Found at the Approximate Levels Indicated
Results Reported as mg/L (ppm)

Sample ID: M98260B
Laboratory ID: 603044-02

| | |
|---|---|
| Chromium | 15,500 |
| Nickel | 14,900 |
| Copper | 2,100 |
| Zinc | 70 |
| Iron | 48,300 |



AKC-0006949