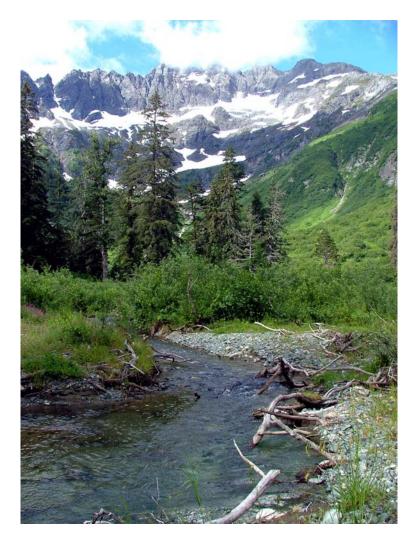
Kensington Gold Project

NPDES Permit AK-005057-1

Annual Water Quality Monitoring Summary Volume 2: Water Quality Data 2006



February 2007

Coeur Alaska Inc. Kensington Gold Project 2006 Hydrologic Annual Report

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QC Summary

Plan QC

Coeur Alaska has implemented the approved and prudent quality assurance plan for the 2006 water quality data. Each lab report is reviewed for issues pertinent to the five categories of quality control;

- Precision
- Accuracy
- Representativeness
- Comparability
- Completeness

Based on the results of this review, lab reports, individual samples, or individual parameters within samples may be qualified on a variety of issues as;

- Accepted
- Estimated
- Rejected

No data were rejected from the 2006 dataset, but some parameters within individual samples were flagged as estimated within the database.

Overall data capture was greater than 90%, which is the target for completeness listed in the QAPP and Fresh Water Monitoring Plan.

Monthly sample set field duplicates were collected on a randomly selected basis. The plan criterion for precision is a difference of less than or equal to 20%. While most parameters passed this criterion on most occasions, each field duplicate set contained parameters that failed this criterion. Results of these comparisons are tabulated in **Appendix A**. These parameters were marked in the company database with the appropriate code.

Table 1. Kensington Gold Project 2006 Water Quality Data Quality Control Checks.

Description	Test	Outcome	MLA	MLB	103	105	109	111	112	SLA	SLB	SLC	001EFF	JS2	JS5
	n(1)		7	1	17	17	18	15	14	12	12	11	59	12	12
Normality test, good for n≤50	Shapiro Wilk test (W test) of normality, alpha=0.01	reject normality hypothosis	Cond; DO; SO4; TDS; Hardness; Al; Fe; Hg; Mn	too few to calc stat	Cond(6); DO; NO3; SO4; TDS; Hardness; Mn; Cl; Hg(6)	Cond; DO; SO4	Cond; TDS	Cond; DO; NO3; TDS	Cond	Cond; Fe; SO4(6); TDS; Al	Cond; Al; DO; Hg; SO4(6)	Cond(6); DO; Hg; SO4(6); TDS	NA	Cond(6); DO; SO4; pH	Cond(6); DO; Hg; Hardness; pH; SO4; TDS
Normality test, good for n<=1000	Studentized range test, alpha=0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Cd; Cu(6); Hardness	NA	NA
Outlier(s)(2), good for n>=25	Rosner's test, alpha=0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Al- 01/03,01/31,01/0 7,01/12; Mn- 01/03; Se-03/14	NA	NA
Outlier(s)(2), good for n<=25	Dixon's (extreme value) test, alpha=0.01	accept outlier hypothosis	NO3-01/04	too few to calc stat	none	none	DO-02/07; SO4- 08/15; Al-01/03; Mn-07/18	Al-01/03	DO-04/18; Mn- 05/02	none	Mn-09/21	Mn-09/06; Zn- 10/04	NA	AI-01/02	none
Reliability Check: TDS(meas)/ Cond(field)	55%<(TDS/Cond)<75%	#Pass	2	0	11	3	3	2	4	3	6	6	NA	3	5
		#<55	2	0	2	9	9	7	4	5	3	4	NA	6	6
		#>75	3	1	4(3)	4	4	5	5(5)	4	3	1	NA	3	1
		#NA	0	0	0	1	2	1	1	0	0	0	NA	0	0

notes:

(1) sample count for 2006

(2) log transform used for log-normal data

(a) 6/6/06 sample=515%; conductivity meter noted in field notes as "drifting replace"
 (4) MM/DD format

(6) missos isomole sample=338%; conductivity meter not noted as calibrated or checked on this date (6) passes normality test for log-transformed data

Detection

Some major parameters and the majority of trace parameters were not detected in water analyses at specified detection limits. Aluminum, manganese, nickel, and zinc were detected in almost all samples. Other metals were either detected in a minority of samples or none at all. Sulfate was not detected in all cases, suggesting some water may have a measurable to dominate bicarbonate component.

The three categories considered were:

- 1. Non-detection
- 2. Detection but less than NPDES monthly average permit limitation
- 3. Exceedence of NPDES monthly average permit limitation

Values above the average monthly average criterion have no regulatory significance, but serve as an easy reference for constituent concentrations. Criterion 3 was only exceeded at 001EFF on January 3, 2006 for copper, lead, and aluminum; and sulfate in December samples.

Ultra low mercury detection limits, provided through the use of method 1631, have provided some information on true background mercury concentrations; however, with the exception of Slate Creek, the majority of samples remain below the detection limit. At these very low detection levels, only Slate Creek stations show detectable background mercury in all samples.

Normality

Use of parametric statistics is dependent on the data meeting assumptions associated with the statistics; e.g., arithmetic mean assumes random samples taken from a normal distribution. Tests were conducted on all parameters by station for normality when more than three values exceeded the laboratory practical quantitation limit (PQL). As shown in Table 1, such parameters as conductivity, dissolved oxygen, nitrate, total dissolved solids, hardness, pH, and sulfate commonly are not normally distributed. Of the 2006 metal parameters detected in excess of the PQL on more than three occasions in 2006; iron, manganese, aluminum, and mercury were not normally distributed at all stations.

This is a typical situation for hydrologic data. A logarithmic transform commonly results in a normal distribution, which is noted – where applicable – in Table 1. Summary statistics are calculated for all parameters and these are presented in Tables 2 through 13 for each discharge and receiving water station; however, the results should be interpreted in light of those parameters that fail the underlying assumption of normality as shown in Table 1.

Outlier(s)

For those stations and parameters where normality is demonstrated, an outlier analysis was performed to identify samples that were unexpectedly large or small; i.e., statistical

outliers. This is not to say the values are not true, but that these values would not be expected if they were random samples collected from a normally distributed population. This helps identify possible "outlier" values that may warrant additional scrutiny and possible classification as estimated or rejected.

These values are also presented in Table 1. A total of 12 individual parameter values were classified as statistical outliers. Of these, only one individual sample parameter – DO at Sh-112 on April 18, 2006 – was flagged as rejected. DO on that date and at that station was less than half the value at Sh-103, located a short distance downstream, and well below any reasonable value at the observed temperature and pressure.

During preparation of 2006 data time series plots, five other samples were identified as outliers. These five sample parameters were flagged as rejected outliers based on review of field data sheets and the reasons given, as listed on the following table:

Station	Date	Parameter	Comments
Sh-105	June 6, 2006	pН	Field data sheet reports meter drifting
Sh-105	August 15, 2006	DO	Unreasonably high value (14.82 mg/L) – above calculated saturation at temp and pressure. An older meter was used.
Sh-105	April 18, 2006	TDS	Ratio of TDS/Cond twice all others. Major ion chemistry consistent with other samples and does not support high TDS.
Sh-112	April 18, 2006	DO	Less than ¹ / ₂ value at Sh-103 (downstream) and below calculated realistic value.
Sh-112	May 16, 2006	рН	Low. No corresponding value at Sh-103 downstream. Not a monthly sample.
SLB	September 21, 2006	TDS	Relative to major chemistry on other dates, this value is exceptionally low.

Outliers flagged as rejected and not included in data analysis.

Internal Consistency – TDS/Conductivity

An internal consistency check was completed on the ratio of TDS (by oven) to measured field conductivity. This ration is generally within the range of 55 to 75 percent in most unpolluted water (Table 1).

This general range contained 35 percent of the 2006 data. Sixty five percent were outside this range – both above and below. A review of field data sheets revealed several potential issues with the field conductivity meters used during 2006, which could account for the variability in the TDS to conductivity ratio. Therefore, conductivity is considered estimated for 2006.

Improvements in meters used, calibration practices, and field measurement practices have been made, which proved successful in reducing the range of the TDS to conductivity in December 2006.

General Major Chemistry

Area waters generally:

- Contain low levels of sulfate (<10ppm)
- Are generally soft (in most cases <50ppm hardness)
- Are at or near oxygen saturation
- Contain low total dissolved solids (<70ppm)
- Have mildly basic pH

Summary information is presented in Tables 2 through 13. These tables also provide the Mann Kendall statistic, which, with a limited data set of one year, can provide guidance to help determine if a particular trend is inferred. Mann Kendall is nonparametric, and missing data and non-detects are allowed. The following discussion focuses on any trends that were inferred from the Mann Kendall test.

Watersheds

Upstream/downstream receiving station pairs are present on Ophir, Sherman, Johnson and Slate Creeks. A comparison of the chemistry between these station pairs is discussed below.

Sh-112 (upstream) to Sh103 (downstream) Ophir Creek

Major Chemistry

Water monitoring on Ophir Creek was intended to identify potential impacts from mine water treatment operations. The flow at Station Sh-103 is made up of treated water

discharged from Outfall 001 and natural upstream runoff and seepage. Natural flow occurs at varying rates throughout the year upstream of Sh-103, depending on the time of year, which contributes to seasonal fluctuations, and short lived trends as presented in the following figures (Figures 1-7). Analytical results for Station Sh-103 show a seasonal trend for conductivity, TDS, nitrate, and sulphate with an increase in spring, followed by a summer decline, and increase again in early winter.

Decreasing trends are shown for DO and pH. Latter results for both of these field tests appear to be less scattered which may indicate improved field calibration techniques as the year progressed.

The Ophir Creek background station (Sh-112), shows a decreasing trend in dissolved aluminum. A steep decline was observed in the first half of the year, followed by values at or near the detection limit.

At the background Station Sh-112, seasonal trends are also evident in conductance and pH, and they appear negatively correlated with sulfate, TDS, and hardness showing very similar seasonal trends of higher winter values and lower summer values.

Trace Chemistry – Ophir Creek

Of the metals analyzed, manganese, nickel, and zinc are the only metals meaningfully measured above detection limits. Manganese is slightly elevated at the 103 (downstream) station, but well within water quality criteria. Mercury and nickel are in the same range, from the upstream to downstream monitoring location.

Aside from higher values obtained during the first sampling event of the year, aluminum is now being controlled with active treatment to below detectable limits.

An apparent jump in zinc values is suggested at both the upstream (112) and downstream (103) stations, on the following figure, however the non-detects are plotted at $\frac{1}{2}$ their value which makes the values that are just above detection limit of 5 ppb, seem elevated.

Sh-109 (upstream) to Sh-105 (downstream) Sherman Creek

Major Chemistry

Water monitoring on Sherman Creek was intended to help identify any potential impacts from mine construction and water treatment activities. Water quality upstream to downstream on Sherman Creek was very similar during 2006 (Tables 6 & 7, Figures 8-14). pH and temperature are very consistent upstream to down, and follow an annual cycle of summer increase and winter decrease. Conductivity is inverse to this trend, showing highest dissolved solids during winter base flows.

Sherman Creek shows a decreasing trend in aluminum over 2006 (Tables 6 & 7). A seasonal trend in DO, TDS, hardness, sulphate, and nitrate was observed both upstream and downstream and the trend appears to be inversely related to temperature and flows.

Trace Chemistry – Sherman Creek

Iron was measured slightly above the detection limit in three samples at the downstream station (Sh-105). No trend is apparent. Aluminum is elevated from upstream to downstream, but well below freshwater aquatic standards. A significant decreasing time trend was identified due to increased treatment efficiencies (Table 6). Zinc shows increased concentrations at all stations, relative to the ½ detect value plotted, due to increased fall stormwater runoff. Zinc concentrations decrease with lower flows during the winter months.

No other metals are elevated from upstream to downstream or with significant trends.

JS2 (upstream) to JS5 (downstream) Johnson Creek

Major Chemistry

Water monitoring on Johnson Creek was intended to identify potential impacts from Mill facility construction. Water quality from upstream to downstream on Johnson Creek shows consistent seasonal trends of temperature, TDS, nitrate, pH, and sulfate. Some elevation of all these parameters, excluding temperature, is seen from upstream to downstream (Figures 15-21). The general increase of roughly 100% in TDS, sulfate; and conductivity and hardness; plus an associated increase in pH suggests addition of carbonate alkalinity from shallow groundwater sources. Sulfate is below 9 ppm, indicating it is likely a minor anion and the water is probably bicarbonate dominate.

Minor fluctuations of pH and DO measurements were noted at both upstream and downstream stations (Tables 8&9). This may indicate subtle drifts in field calibration.

Trace Chemistry – Johnson Creek

Downstream (JS5) dissolved aluminum and manganese plot above the range observed upstream (JS2), but no significant trends were identified (Tables 7&8). Given the increase in TDS – likely associated with bedrock and alluvial fill groundwater contributions, these increases are reasonable.

The absence of other dissolved metals is typical of results obtained in all other project areas watersheds.

MLA (upstream), SLB (above west fork confluence), SLC (downstream) Slate Creek

Major Chemistry

Water monitoring on Slate Creek in 2006 was intended to identify potential impacts from Tailings Storage Facility (TSF) construction. Figures 22 through 28 show the analytical results throughout the year.

Dissolved oxygen, pH, conductivity, temperature, turbidity, nitrate, sulfate, hardness, and TDS follow the same seasonal trends and have the same approximate magnitude throughout the monitored reach of Slate Creek. TSS is generally at or below detection limits with three values just above detectable values at all stations.

At station SLC, downstream of SLB, no significant trends were identified.

Trace Chemistry – Slate Creek

Aluminum and mercury both show seasonal trends. Aluminum shows a decreasing trend at the upstream background station (MLA), but no significant trends were identified at the other stations. Mercury was detected at all stations on all dates and at very low levels. All mercury values are within the same very tight range, which was calculated as an upward trend at the background upstream station MLA (Tables 11 thru 13).

All three sampling stations on Slate Creek show a fall high-flow seasonal spike in Manganese.

Discharges

Outfall 001Effluent

Sampling at the Comet water treatment plant (WTP) discharge was weekly, resulting in four times the data as compare to most background stations. This larger group of samples results in reduced variances and greater potential for identification of small trends (Figures 29-36). Variances in effluent data from Outfall 001 may reflect subtle changes to treatment techniques and levels and areas of activities in the underground mine.

Dissolved oxygen showed a significant downward trend in the, but was always well within a healthy concentration for freshwater life. Temperature followed a seasonal cyclic trend due to the resonance times in the water treatment plant holding ponds.

Major cations (represented by hardness) and anions (represented by sulfate) plus TDS varied throughout the year. Only hardness is calculated as an increasing trend, which is not visually distinct from sulfate or TDS.

Nitrate and ammonia both show increasing concentrations late in the year due to lower seasonal flow being discharged from the underground mine. Values remained well below permit limitations throughout the year.

Concentrations of lead, mercury, and nickel vary in concentration but are essentially at or near the detection limit well below compliance levels.

Aluminum and iron show significant downward trends owing to some slightly higher values early in the year. On the whole, the metals are at or only slightly above detection limits in the discharge water.

Outfalls 002 and 003

Outfall 002 is the tailing storage facility, which has not yet been constructed and therefore, no discharge occurred during 2006.

Outfall 003 is the Comet Camp sewage treatment plant marine outfall. This facility underwent an expansion during 2006 to help accommodate an expanding construction workforce. All four NPDES permit parameters (pH, BOD, Fecal coliform, and TSS) were within or well under permit compliance limits.

MK statistic significant at	alpha≕0.05		Z			z			:		z	z	z	X		z	>		z	z	Y	>
Mann Kendall Statistic indicating increasing or	decreasing trend	0	9-	0	0	15	0	0	0	0	-4	26	-11	51	0	-12	9	0	-18	-221	-52	09-
Standard deviation		0.0000	9.0702	0.0000	0.0000	4.2876	0.0000	0.0000	0,0000	0.0008	10.8780	0.2794	2.4680	1.3258	0.0000	60.6020	2.7695	0.0000	121.6000	82.4870	1.0943	0.2280
Arithmetic Mean		0.0500	2.4412	1.2500	0.0500	6.2647	1.2500	0.5294	0.0250	0.0007	14.8530	0.3059	2.8235	1.6076	0.0800	95.2180	2.5441	0.5000	230.0000	140.3500	11.2470	7.5153
Percent		100	53	100	100	6	100	94	100	71	9	24	35	0	100	0	76	100	0	0	0	c
Number of Nondetects		17	6	17	17	1	17	16	17	10	1	4	9	0	17	0	13	17	0	0	0	c
Number of Samules	Calibres	17	17	17	17	17	17	17	17	14	17	17	17	17	17	17	17	17	17	75	17	17
Range (Max-Min)		0.000	26.0000	0.000	00000	14.0000	0.0000	0.0000	0.0000	0.0017	40.0000	0.9000	7.0000	5.0700	0.0000	189.8000	6.6000	0.0000	340.0000	246.0000	3.8600	0.0500
Min		0.0000	1.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0003	3.0000	0.1000	1.0000	0.1500	0.000	13.2000	2.9000	0.000	60.0000	22.0000	9.8800	0000
Max		0.0000	27.0000	0.0000	0.0000	15.0000	0.0000	0.0000	0.0000	0.0020	43.0000	1.0000	8.0000	5.2200	0.0000	203.0000	9.5000	0.0000	400.0000	268.0000	13.7400	0000 -
Unit		l/ôn	l/bn	l/Bn	l/bn	l/bm	l/Bn	l/bn	l/Bm	νon	l/bm	mg/l	l/Bn	mg/l	l/bn	l/6m	l/gu	l/bn	l/bm	12.3	1.02.2	
Raraméter Min Range (Max-)		Ag the second second	AIT	AS SECTION	Cd They End and The	0	0 	<u>ou</u>	Fe while the state	How have a second s	Mn	NH4	N	NO3 ~ CON		S04	Zhine State	Se	TDS	Meas Hardness	Dissolved Oxygen ma/l	

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MK Statistic significant at alpha=0.05		Y			Z				z	Z		N	z		z			N	Z	N	N
Mann Kendall Statistic Indicating increasing or decreasing trend	0	-34	0	0	3	0 .	0	0	6	6-	0	4	++	0	ο	0	0	-20	ъ	8	-19
Standard deviation	0.0000	8.5693	0.0000	0.0000	0.7528	0.000	0.4472	0.0000	0.0005	14.4320	0.0000	1.9235	0.9259	0.0000	70.3620	2.0167	0.0000	131.3500	79.7270	1.0776	0.2054
Arithmetic Mean	0.0500	5.0714	1.2500	0.0500	1.6429	1.2500	0.7500	0.0250	0.0012	3.9643	0.0536	1.8214	0.7308	0.0800	69.4290	3.2250	0.5357	157.1400	86.7860	10.4260	7.223
Percent Nondetects	100	29	100	100	57	100	64	100	40	50	93	64	0	100	0	64	93	0	7	0	0
Number of Nondetects	14	4	14	14	8	14	6	14	4	7	13	6	0	14	0	6	13	0	1	0	0
Number of Samples	14	14	14	14	14	14	14	14	10	14	14	14	13	14	14	14	14	14	14	13	13
Range (Max-Min)	0.000	28.0000	0.0000	0.000	2.0000	0.0000	1.0000	0.0000	0.0014	39.0000	0.0000	5.0000	3.0000	0.0000	164.4000	4.8000	0.0000	340.0000	190.0000	3.9900	0.6300
Min	0.0000	1.0000	0.0000	0.0000	2.0000	0.0000	1.0000	0.0000	0.0007	1.0000	0.0000	2.0000	0.0500	0.0000	4.6000	3.9000	0.0000	30.0000	20.0000	9.3200	6.9000
Max	0.0000	29.0000	0.0000	0.0000	4.0000	0.0000	2.0000	0.0000	0.0021	40.0000	0.0000	7.0000	3.0500	0.0000	169.0000	8.7000	0.0000	370.0000	210.0000	13.3100	7.5300
	l/in	l/Bn	l/6n	l/5n	l/gm	l/6n	Vou	l/bm	/bn	l/bm	l/gm	l/on	l/6m	l/bn	l/gm	l/Bn	l/Bn	l/bm	l/bm	ma/i	
Parameter and Date 1.1.2.2000 Mater available and Summing Action 2011	Ag	 A state of the sta	As the second second ug/	Poly science in the second second	OI STATES THE STATES	Criteria Contraction	IOU AND A THE REAL PROPERTY AND	Ferser	High the second se	Mn	NH4	N	NO3	Pb - 10 - 10	S04	Zn	Sector	TDS	Meas Hardness	Dissolved Oxygen mg/	ha

	<u> </u>	Parameter With A Min Range (Max-Min)	Number of Samples	Number of Nondetects	Percent Nondetects	Arithmetic Mean	Standard deviation	Mann Kendall Statistic indicating increasing or decreasing trend	MK statistic significant at alpha=0.05
0.0000 0.0000	0.0000		15	15	100	0.0500	0.0000	0	
1.0000 9.0000	9.0000	-	15	10	67	1.4000	3.8341	4	Y
0.0000 0.0000	0.0000		15	15	100	1.2500	0.000	0	
0.0000 0.0000	0.0000		15	15	100	0.0500	0.0000	0	
0.0000 0.0000	0.000		15	15	100	0.5000	0.0000	0	
0.0000 0.0000	0.000		15	15	100	1.2500	0.000	0	
0.0000 0.0000	0.0000	I	15	15	100	0.5000	0:000	0	
0.0000 0.0000	0.0000		15	15	100	0.0250	0.000	0	•
0.0017 0.0000	0.000		13	11	85	0.0006	0.000	0	
0.0000 0.0000	0.0000	<u> </u>	15	15	100	0.5000	0.0000	0	
0.0000 0.0000	0.0000	-	15	14	93	0.0533	0.0000	0	
0.0000 0.0000	0.0000		15	14	93	0.5333	0.000	Đ	
0.0600 0.3500	0.3500		15	4	27	0.1707	0.1140	*- *-	z
0.0000 0.0000	0.0000		15	15	100	0.0800	0.0000	o	
1.7000 3.7000	3.7000	_	15	0	0	3.1667	1.3973	-42	>
5.5000 3.4000	3.4000		15	÷	73	2.8033	1.7783	-2	z
0.0000 0.0000	0.0000	-	15	15	100	0.5000	0.0000	0	
20.0000 50.0000	50.0000		15	1	7	37.6670	15.6890	-14	z
20.0000 20.0000	20.0000		15	۲	7	25.0000	7.4495	-37	~
9.9400 3.5000	3.5000		15	0	0	11.8440	0.9889	-14	z
6.7500 1.0400			4			7 6400	02000	0	2

MK statistic significant at alpha-0.05		γ							z		z		Y		z	z		z	z	×	z
Mann Kendail Statistic indicating increasing or decreasing trend	0	-43	0	0	0	0	0	0	G	0	Ţ	0	22	0	8	4	0	-14	ę	-50	29
Standard deviation	0.0000	12.2680	0.0000	0.0000	1.9462	0.0000	0.0000	0.0058	0.0005	2.0736	0.0707	0.0000	0.1543	0.0000	4.8174	3.4967	0.000	25.4870	12.1270	6/66'0	0.2002
Arithmetic Mean	0.0500	15.3820	1.2500	0.0500	1.6765	1.2500	0.5882	0.0324	0.0010	1.0588	0.0618	0.6471	0.2474	0.0800	10.8180	3.1706	0.5294	63.1250	42.9410	12.1630	7.5200
Percent Nondetects	100	. 9	100	100	29	100	82	82	43	71	88	71	6	100	0	71	94	0	0	0	0
Number of Nondetects	- 17	1	17	17	5	17	14	14	6	12	15	12	1	17	0	12	16	0	0	0	0
Number of Samples	17	17	17	17	17	17	17	17	14	17	17	17	17	17	17	17	17	16	17	17	17
Range (Max-Min)	0.0000	41.0000	0.0000	00000	7.0000	0.0000	0.0000	0.0100	0.0014	5.0000	0.1000	0.0000	0.6400	0.000	19.3000	8.3000	0.000	80.0000	40.0000	3.3200	0.7000
Min	0.0000	5.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0600	0.0007	1.0000	0.1000	1.0000	0.0600	0.0000	3.6000	4.5000	0.0000	30.0000	30.0000	10.5900	7.0700
Max	0.0000	46.0000	0.0000	0.0000	8.0000	0.0000	1.0000	0.0700	0.0021	6.0000	0.2000	1.0000	0.7000	0.0000	22.9000	12.8000	0.0000	110.0000	70.0000	13.9100	7.7700
Parameter with the Max Min Range (Max-N	l/6n	l/gu	ng/l	l/gu	l/gm	J/Bn	[/ôn	l/Bm	1/6n	l l/gm	l/ibul	i/ôn	l/6m	/ɓn]/ɓɯ	i/gu	∥ôn	l/ĝm	l/gm	l/gm	
Parameter	Agentical and a second	A PERSONAL AND A PROPERTY OF	As the second second	Cd The Part of the Part	0-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Cr. 12 Contraction of the second	Current of the second second	Fe	BH THE REAL PROPERTY OF THE	Mn 'n State and State and	NH4 - ANN ANN ANN	Ni - La - Statistica - IN	NO3 SUPERATION	And hatter that the second	SO4 Sector POS	Zn	Set 25 Charles Providence	TDS	Meas_Hardness	Dissolved_Oxygen	A DECEMBER OF

MK statistic significant at alpha=0.05		z							z	z			z		z	Z		z	N	Υ	z
Mann Kendall Statistic indicating increasing or decreasing trend	0	-29	D	0	0	0	0	0	6	4	0	0	-11	0	-7	ς	0	Ģ	9	-54	36
Standard deviation	0.000	3.7658	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.5774	0.0000	0.0000	0.0515	0.0000	3.5842	2.3501	0.0000	20.5480	7.7174	0.9121	0.3663
Arithmetic Mean	0.0500	4.1667	1.2500	0.0500	0.5833	1.2500	0.5278	0.0250	0.0007	0.7222	0.0583	0.5556	0.0967	0.0800	7.0444	2.8167	0.5000	61.1110	40.8330	11.8720	7.5382
Percent Nondetects	100	22	100	100	94	100	94	100	57	78	94	89	44	100	0	67	100	0	6	0	0
Number of Nondetects	18	4	18	18	17	18	17	18	8	14	17	16	8	18	0	12	18	0	1	0	0
Number of Samples	18	18	18	18	18	18	18	18	14	18	18	18	18	18	18	18	18	18	18	17	17
Range (Max-Min)	0.000	15.000	00000	00000	0:0000	0.0000	0.0000	0.0000	0.0015	1.0000	0.0000	0.0000	0.1400	0.0000	16.0000	6.6000	0.000	80.0000	30.000	3.8400	1.1400
Min	0.0000	2.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0003	1.0000	0.0000	1.0000	0.0800	0.0000	3.7000	2.9000	0.0000	40.0000	30.0000	10.8600	6.8600
Max	0.000	17.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	2.0000	0.0000	1.0000	0.2200	0.0000	19.7000	9.5000	0.0000	120.0000	60.000	14.7000	8 0000
Unit	l/Bn	l/Bn	l/ôn	y6n	l/gm	l/bn	l/Bn	l/gm	l/6n	l/6m	l/gm	-l/ɓn	mg/l	l/bn	mg/l	l/bn	. 1/bn	l/gm	l/gm	1/gm	
Parameter	Ag The second	A STATES AND A STATES	As here a second second	Cd C	CI CONTRACTOR	Cr	Cu -	Fe	Ho to all other states of		NH4	N	NO3 - P P P P	Pb. 1 (1997) - 1 (1997)	SO4	Zn Start	Se	TDS 'n SUT	Meas_Hardness	Dissolved Oxygen mg/l	NH - N - N - N - N - N - HU

MK statistic significant at alpha=0.05	-	z								z			z		z	z		z	z	z	Y
Mann Kendall Statistic indicating increasing or decreasing trend	0	8-	0	0	0	0	0	0	0	-2	0	0	-17	0	-20	1	0	3	-3	-22	35
Standard deviation	0.0000	4.7223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4472	0.0000	0.000	0.1456	0.000	0.3393	3.1193	0.0000	9.1894	4.5227	0.6792	0.2066
Arithmetic Mean	0.0500	2.0000	1.2500	0.0500	0.5000	1.2500	0.5000	0.0250	0.0006	1.0417	0.0542	0.5000	0.1617	0.0800	1.4667	2.5625	0.5000	19.1670	17.5000	11.6830	7.1917
Percent Nondetects	100	50	100	100	100	100	100	100	91	58	92	100	0	100	0	75	100	17	0	0	0
Number of Nondetects	12	6	12	12	12	12	12	12	10	7	11	12	٥	12	0	6	12	2	0	0	٥
Number of Samples	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	12	12	12	12	12	12
Parameter in the Max Min Range (Max-Min)	0.0000	12.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	1.0000	0.0000	0.0000	0.5500	0.0000	0.9000	6.2000	0.000	20.0000	10.0000	2.5200	0.7400
Min	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0500	0.000	1.1000	3.2000	0.0000	10.0000	10.0000	10.7900	6.7900
Max	0.0000	13.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000	0.0000	0.0000	0.6000	0.0000	2.0000	9.4000	0.0000	30.0000	20.0000	13.3100	7.5300
Cnit	ן/Bn	l/ôn	l/Bn	/ɓn	l/gm	i/ĝn	ן/Bn	mg/l	l/ôn	l/gm	l/gm	l/gu	l/gm	i/ɓn	l/gm	, l/ôn	l/gu	1/gm	l/gm	l/gm	
Parameter	AG - ST - ST - ST	A	AS "Not and the second s	POLITICAL POLICY	<u>0</u>	Or Contraction of the	Culture States of the	Fe ^{rr} All and a line of	Hg ~~~~	Mn	NH4	N THE PROPERTY OF THE PROPERTY	NO3	<u>Po</u>	SO4	Zn Standard II.	Se - 1 The Sec	TDS - Control of the	Meas Hardness	Dissolved Oxygen	The second second Ho

MK statistic significant at alpha=0.05		z							N	N			z		z	z		z	z	7	~
Marn Kendall Statistic indicating increasing or decreasing trend	0	-10	0	0	0	0	0	0	2	-12	0	0	80	0	φ	-	0	-10	σ	-38	33
Standard deviation	0.0000	4.5656	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0007	4.6482	0.0000	0.0000	0.1765	0.0000	1.9061	2.7610	0.0000	18.2570	12,4470	0.8097	0.1774
Arithmetic Mean	0.0500	4.9167	1.2500	0.0500	0.5000	1.2500	0.5000	0.0250	0.0007	5.8333	0.0583	0.5000	0.2975	0.0800	4.4333	2.6292	0.5000	43.3330	35.7500	12.0960	7,5667
Percent Nondetects	100	17	100	100	100	100	100	100	64	0	83	100	0	100	D	75	100	0	0	0	0
Number of Nondetects	12	2	12	12	12	12	12	12	2	0	10	12	0	12	0	6	12	0	0	0	0
Number of Samples	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	12	12	12	12	12	12
Range (Max-Min)	0.0000	14.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0014	14.0000	0.0000	0.0000	0.6400	0.0000	5.8000	5.4000	0.0000	50.000	30.000	2.3100	0.5700
Min	0.0000	2.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0004	2.0000	0.1000	0.0000	0.1300	0.0000	2.2000	4.4000	0.0000	20.0000	20.0000	11.2600	7 1900
Max	0.0000	16.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0017	16.0000	0.1000	0.0000	0.7700	0.0000	8.0000	9.8000	0.0000	70.0000	50.0000	13.5700	7 7800
Unit	1/6/1	l Von	l/gu	l/bn	l/bm	l/bn	l/bn	mg/l	ng/ī	i/bm	mg/l	l/bn	l/gm	l/gu	l/gm	l/bn	ΠQ/I	ma/l	mg/l	∏mg/l	
Parameter Min Range (Ma	Ag	A	AS	PO PO		Or Market Williams	Cut - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	Ferris	Hq	Mn * 2 Test of the	NH4 STATES	N	NO3	Pb -	S04 - 1010	La sugar de la	Service Control of the service of th	TDS	Meas Hardness	Dissolved Oxygen	

Mann Kendall Statistic MK statistic Indicating increasing or significant at decreasing trend alpha=0.05		7	:					z	7	z		z	z		z			z	z	z	z
Mann Kendall Statistic Indicating increasing or decreasing trend	0	-17	0	0	0	0	0	-7	18	ο	0	-1	1	0	1	0	0	11	5	-3	L-
Standard deviation	0.0000	25.3470	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310	0.0010	4.4508	0.0000	0.7071	0.0071	0.0000	0.2812	0.0000	0.0000	14.9600	12.7240	1.6262	0.3605
Arithmetic Mean	0.0500	59.1430	1.2500	0.0500	0.5000	1.2500	0.5000	0.1143	0.0022	7.8571	0.0500	0.7857	0.0483	0.0800	1.6286	1.2500	0.5000	67.1430	44.2860	11.6250	7.3300
Percent Nondetects	100	0	100	100	100	100	100	0	0	0	100	71	. 67	100	0	100	100	0	0	0	0
Number of Nondetects	2	0	7	7	7	7	2	0	0	0	7	5	4	7	0	7	7	0	0	0	0
Number of Samples	7	7	7	7.	7	7	7	2	2	7	7	7	9	7	7	7	7	7	7	9	2
Range (Max-Min)	0.0000	69.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0900	0.0025	10.0000	0.0000	1.0000	0.0100	0.0000	0.8000	0,0000	0.000	40.0000	40.0000	3.5900	1.2100
Min	0.0000	30.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0800	0.0007	2.0000	0.0000	1.0000	0.0900	0.000	1.1000	0:0000	0.000	50.0000	20.0000	9.3200	6.7700
Parameter Min Range (Max-W	0.0000	99.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1700	0.0032	12.0000	0.0000	2.0000	0.1000	0.0000	1.9000	0.0000	0.0000	90.000	60.0000	12.9100	7.9800
Cuit	l VBn	l/Bn	/Bn	/bn	l/gm	l/6n	i/Bn	l/gm	/bn	mg/l	/bm	l/5n	l/gm	i/gn	l/gm	l/gu	y/6n	l/6m	l/bu	l/gm	
Parameter	Age of the second s		As	Cd : U = U = Ug/		CT - L - C - C - C - C - C - C - C - C - C	Culture and the second	Fe	EH.		NH4 - VIEW - DIE -	Ni Transi and Anna Anna Anna Anna Anna Anna Anna	NO3	her and her	SO4 So4 mg/	Zn Trighten (1991)	Set 1	TDS	Meas_Hardness mg/l	Dissofved Oxygen	PH A CONTRACTOR OF A CONTRACTOR

MK statistic significant at alpha=0.05		Y		z				Υ	z	Y	N	z	z		7	z		z	Y	Z	Y
Mann Kendall Statistic Indicating increasing or decreasing trend	D	-29	0	-1	Q	0	0	29	۲.	42		2	2	0	43	4	0	18	29	-14	31
Standard deviation	0.000	19.7910	0.0000	0.0707	0.0000	0.0000	0.0000	0.0941	0.0008	61.5750	0.1414	0.5477	0.2540	0.0000	2.0131	6.5357	0.0000	14.0350	8.3485	1.6028	0.1652
Arithmetic Mean	0.0500	56.6670	1.2500	0.0667	0.6250	1.2500	0.5833	0.1792	0.0030	51.0830	0.0750	0.9583	0.0729	0.0800	2.7875	4.0917	0.5000	58.3330	38.3330	10.7980	7.2567
Percent Nondetects	100	0	100	83	75	100	83	0	0	0	83	58	75	100	8	67	100	0	0	0	0
Nondetects	12	0	12	10	6	12	10	0	0	0	10	7	9	12	1	8	12	0	0	0	0
Number of Samples	12	12	12	12	12	12	12	12	2	12	12	12	12	12	12	12	12	12	12	6	12
Range (Max-Min)	0.0000	71.0000	0.0000	0.1000	0.0000	0.0000	0.0000	0.2500	0.0012	167.0000	0.2000	1.0000	0.4400	0.0000	5.5000	14.7000	0.0000	40.000	30.0000	4.2100	0.5100
Min	0.0000	25.0000	0.0000	0.1000	1.0000	0.0000	1.0000	0.0600	0.0024	4.0000	0.1000	1.0000	0.0700	0.0000	1.1000	4.5000	0.0000	40.0000	20.0000	9.0400	7.0500
Max	0.0000	96.0000	0.0000	0.2000	1.0000	0.0000	1.0000	0.3100	0.0036	171.0000	0.3000	2.0000	0.5100	0.0000	6.6000	19.2000	0.0000	80.0000	50.0000	13.2500	7.5600
A 2006. Unit	l/bn	ו/bn	ng/t	l/gu	mg/l	l/6n	l/bn	mg/l	l/ou	l/Bm	l/gm	/bn	mg/l	l/Bn	l/Bm	l/6n	l/bn	ma/l	l/gm	l/gm	,
Parameter Station SLA 2000 Water Quality Data Summary Station 9.	Ag	ALC: NOT ALL ALL ALL ALL ALL ALL ALL ALL ALL AL	As the second second	Cd N THE REAL PO	10	C	Cu variation of the second	Fe	Ho the state of the second		NH4	N	NO3 CONTRACTOR	Pb	SO4	Under Anderson and UZ	Se	TDS	Meas Hardness	Dissolved_Oxygen mg/l	HOLE COLORED HO

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	alpha=0.05	0	-19 N	0	0	0	0	1 N	19/26 N/Y	6 N	34/41 Y	0	4 N	7/8 N/Y	0	35/41 Y	2 N	0	21/28 Y	23 N	-16 N	18 N
Mann Kendall Statistic Internation	decreasing trend		-						19		34					35			21			
Standard deviation		0.0000	26.4830	0.0000	0.0000	0.0000	0.0000	0.7071	0.1149	0.006	32.2890	0.000	0.3780	0.0658	0.0000	1.7367	3.1700	0.0000	12.5050	7.9296	1.3591	0.3813
Arithmetic Mean		0.0500	57.4170	1.2500	0.0542	0.6667	1.2500	0.6667	0.1750	0.0026	19.7080	0.0625	0.8750	0.0538	0.0800	2.5042	3.1417	0.5000	58.1820	35.8330	11.3880	7.5633
Percent Nondetects		100	0	100	92	67	100	83	0	0	25	92	42	58	100	. 8	67	100	0	0	0	0
Number of Nondetects		12	0	12	11	8	12	10	Ö	0	3	11	5	7	12	÷	8	12	O O	0	0	0
Number of Samples		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	12	12	12
Range (Max-Min)		0.000	96.0000	0.0000	0.0000	0.0000	0.000	1.0000	0.3800	0.0019	89.0000	0.0000	1.0000	0.1600	0.0000	4.8000	7.0000	0.0000	40.0000	30.000	4.0300	1.1100
Min Min		0.0000	23.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0500	0.0017	1.0000	0.0000	1.0000	0.0500	0.0000	1.0000	4.6000	0.0000	40.0000	20.0000	9.8000	7.0100
water Quality Max		0.0000	119.0000	0.0000	0.0000	1.0000	0.0000	2.0000	0.4300	0.0036	90.000	0.0000	2.0000	0.2100	0.0000	5.8000	11.6000	0.0000	80.0000	50.0000	13.8300	8.1200
Unit Unit		l/gu	/Bn	l/Bn	l/ɓn	i/6m	l/Bn	1/Bn	l/gm	l/bn	l/gml	l/gm	1/bn	mg/l	/bn	l/gm	l/Bn	l/Bn	mq/l	mg/l	l/6m	
Parameter Dunit Max Min Range (Max-N		Ag: State and a local state of the second stat	A STATE OF A STATE	As 1- Weight Wight SK	Cd	0	Cr.	Cu	Fe	N HUR REAL DH	Mn The Fight State	NH4	N	NO3	qd	S04	Zn	Se	TDS - S - S - I - I - I - I - I - I - I -	Meas Hardness	Dissolved Oxygen [mg/	DH THE THE PLAN

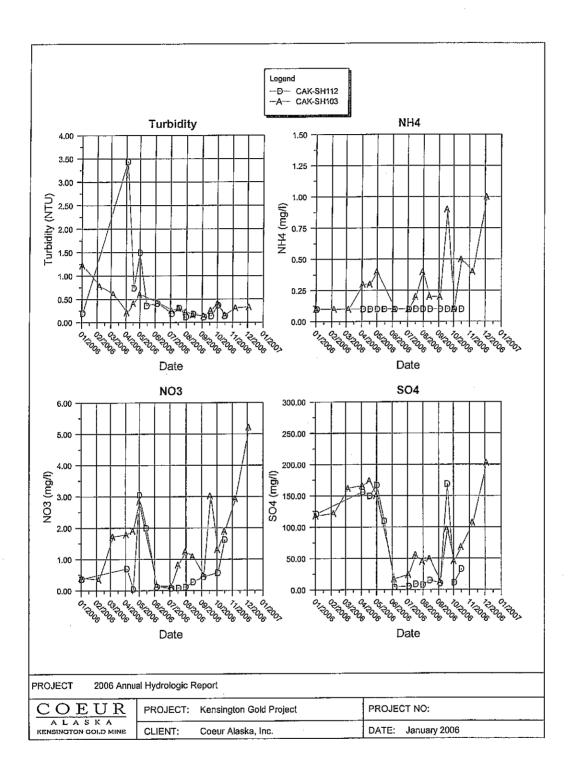
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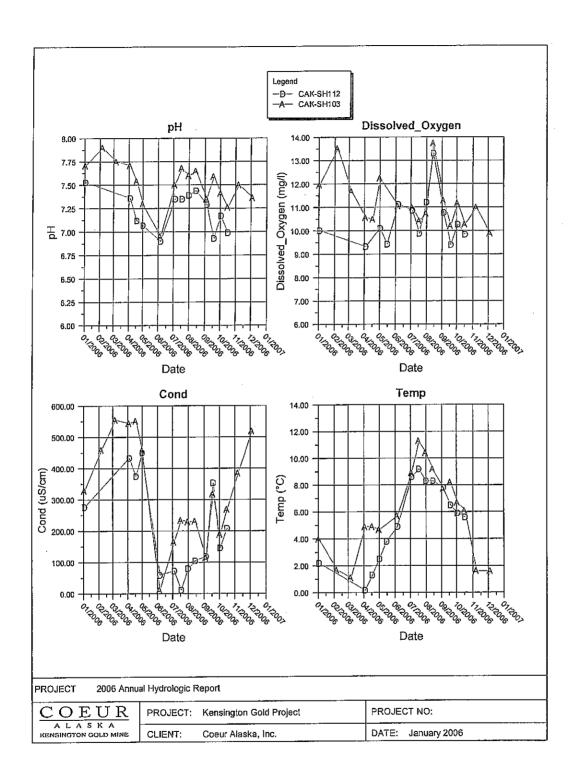
MK statistic significant at alpha=0.05		z			z			z	z	z		z	z		z	z		z	z	z	z
Mann Kendall Statistic indicating increasing or decreasing trend	0	Ŷ	0	0	-3	0	0	9	21	9	0	-2	£	0	+	1	0	-13	-2	-15	11
Standard deviation	0.0000	31.7220	0.0000	0.0000	0.3162	0.0000	0.0000	0.0787	0.0007	16.6180	0.0000	0.5774	0.0321	0.0000	1.1795	4.0919	0.0000	15.0150	10.4450	1.1047	0.3623
Arithmetic Mean	0.0500	48.0910	1.2500	0.0500	1.0455	1.2500	0.5000	0.0955	0.0025	8.5000	0.0636	0.8636	0.0409	0.0800	2.8500	2.6909	0.5000	56.3640	39.0910	11.5850	7.5791
Percent Nondetects	100	0	100	100	6	100	100	36	0	45	91	64	73	100	9	73	100	0	0	0	0
Number of Nondetects	11	0	11	11	1	11	11	4	0	5	10	7	8	11	1	8	11	0	0	0	D
Number of Samples	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Range (Max-Min)	0.0000	111.0000	0.0000	0.0000	1.0000	0.0000	0.000	0.2400	0.0022	36.0000	0.000	1.0000	0.0600	0.0000	3.3000	0006.7	0.000	20.0000	30.0000	3.3500	1.0700
Min	0.0000	22.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0500	0.0015	2.0000	0.0000	1.0000	0.0600	0.0000	1.5000	3.2000	0.0000	30.0000	20.0000	9.9500	7.0400
Max	0.0000	133.0000	0.0000	0.0000	2.0000	0.0000	0.0000	0.2900	0.0037	38.0000	0.0000	2.0000	0.1200	0.0000	4.8000	11.1000	0.0000	80.0000	50.0000	13.3000	8.1100
Parameter Unit Max Min Range (Max-	l/gn	l/gu	i/ɓn	/bn	l/gm	l/gu 🗄	₽ĝn	ng/l	l/ចំព	mg/l	l/gm	l/gu	l/gm	l/gu	l/gm]/6n	i/gu	l/gm		l/gm	
Parameter 4 Children	Ag the set of the set of the	ALL STREET	As the second second second	PO PO	CI - S	OF 11 Trues (with the first) and	<u>Cu</u>	Fe	Hg		NH4	N	NO3	Pb-root of the second second second	SO4	Zn	Se	TDS	Meas Hardness	Dissolved Oxygen mg/l	A STATE OF A

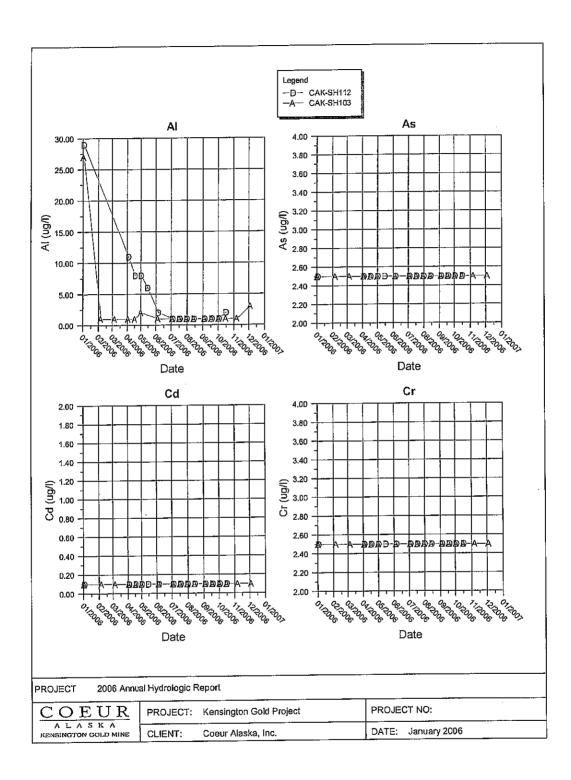
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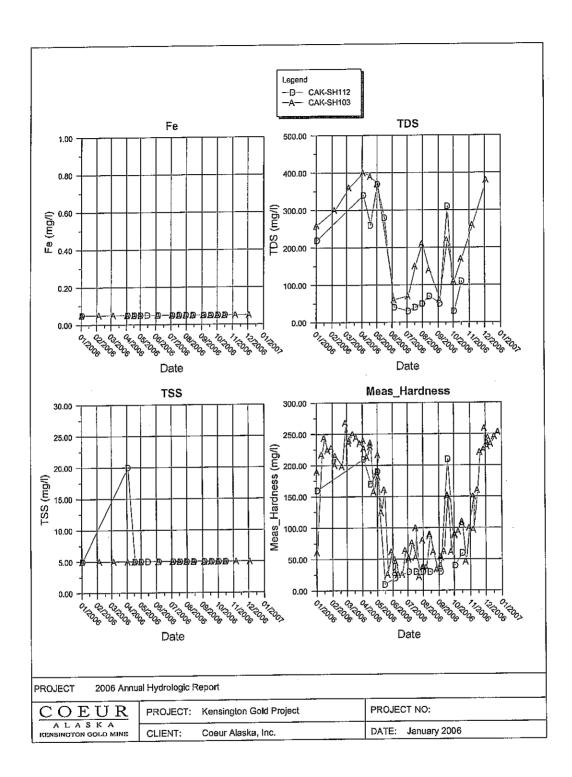
MK statistic significant at alpha=0.05	z	Y		z			z	X	۲	Z	٢	Y	Y	Y	N	N	z	z	7	Y	N
Mann Kendall Statistic Indicating increasing or decreasing trend	-	-410	0		0	0	4	-214	41	06	478	-511	775	-6	232	136	-6	-163	-427	-592	-61
Standard deviation	0.1414	259.7000	0.0000	0.0707	0.0000	0.0000	5.6674	0.1092	0.0005	23.3660	0.6315	3.3985	1.4602	1.7671	39.2250	3.2124	0.3333	53.3830	27.7230	0.7158	0.0891
Arithmetic Mean	0.0541	37.1910	1.2344	0.0902	0.000	1.2320	0.9543	0.0983	0.0007	36.8610	0.9742	5.4536	2.4108	0.1435	158.4200	4.6013	0.5859	373.3300	228.3000	10.9870	8.0183
Percent	97	25	100	97	NA	100	89	31	72	0	8	0	0	94	0	27	86	0	0	0	0
Number of Nondetects	62	16	64	62	0	64	57	20	42	٥	5	0	0	60	0	17	55	ο	0	0	0
Number of Samples	64	64	64	64	0	64	64	64	58	64	60	64	60	64	60	64	64	. 60	60	59	35
Range (Max-Min)	0.2000	1808.0000	0.0000	0.1000	0.000	0.0000	15.4220	0.5708	0.0020	153.9100	3.3000	17.0000	7.0500	3.5800	177.0000	14.0700	1.0000	210.0000	95.0000	3.0400	0.3000
Min	0.1000	2.0000	0.000	0.2000	0.0000	0.0000	× 0.5780	0.0362	0.0003	6.0900	0.1000	2.0000	0.1300	0.1800	77.0000	1.4300	1.0000	260.0000	185.0000	9.7800	7.9000
Max	0.3000	1810.0000	0.0000	0.3000	0.0000	0.000	16.0000	0.6070	0.0023	160.0000	. 3.4000	19.0000	7.1800	3.7600	254.0000	15.5000	2.0000	470.0000	280.0000	12.8200	8.2000
Unit	l/bn	l/Bn	l/Bn	l/6n	1/Gm	l/Bn	l/5n	l/gm	J/Bn	l/gm	l/Bm	l/Bn	l/gm	1/6n	l/gm	l/6n	ng/l	l/gm	l/am	ma/l	,
Pärameter Max Min Range (Max-M	Age of the	ALC: N	AS	PO	OL STATISTICS	Cr.	Ou	Fe	Hg - T - T - T - Hg		NH4	N	NO3	Pb	S04 7 81 1 1 1 1	New Constanting and UZ	Se	TDS	Meas Hardness	Dissolved Oxygen mg/l	Ha Shire Ha

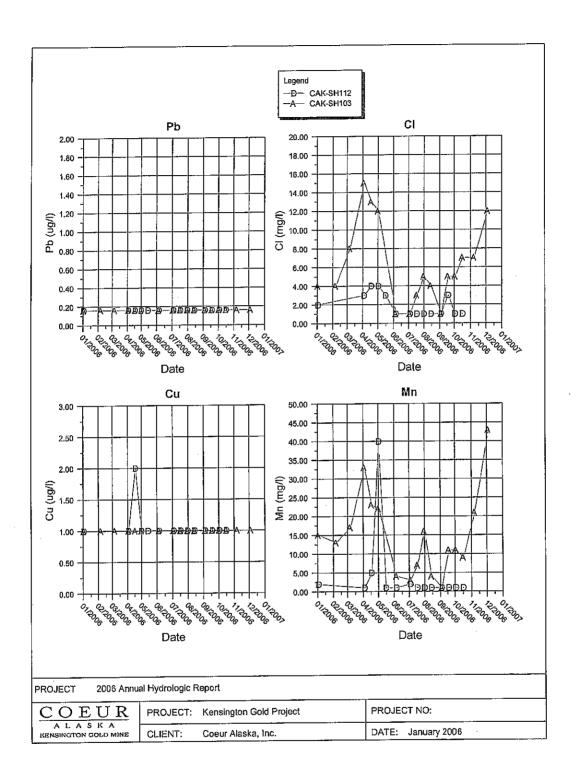
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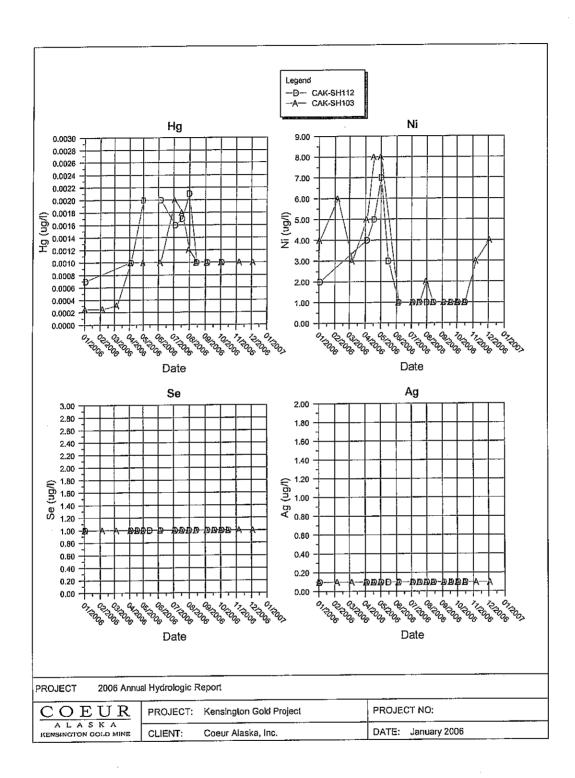


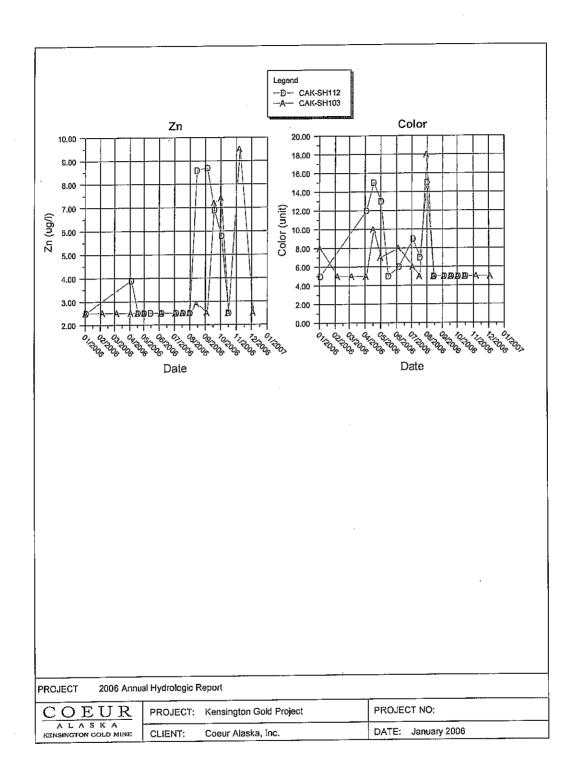


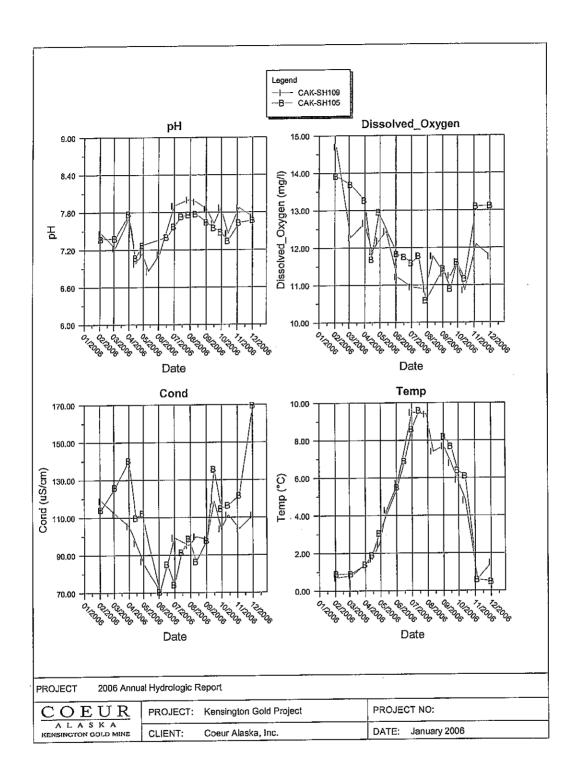


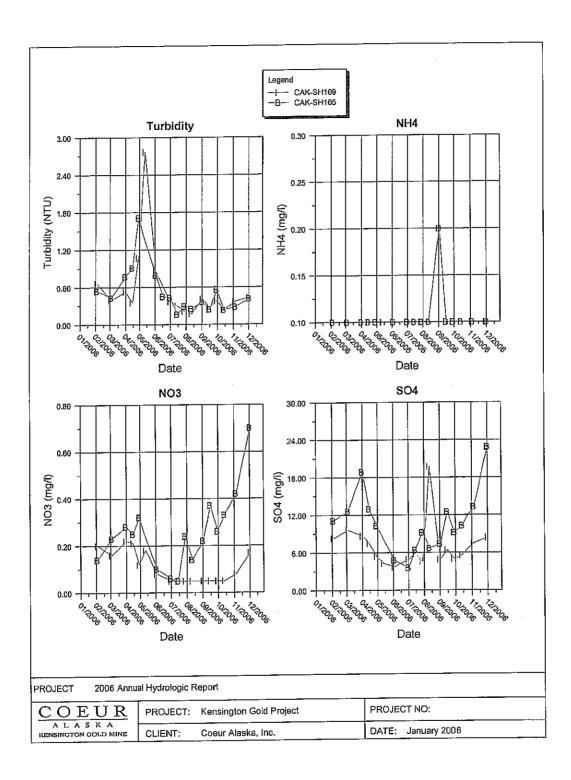


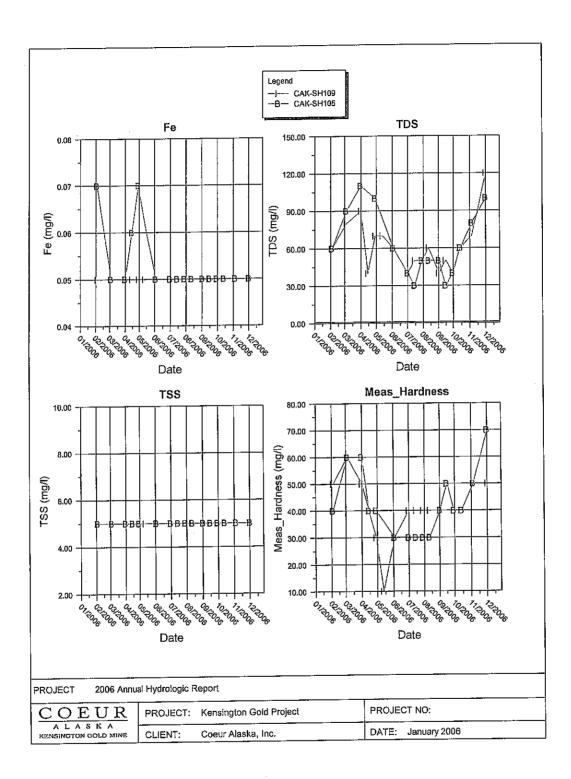


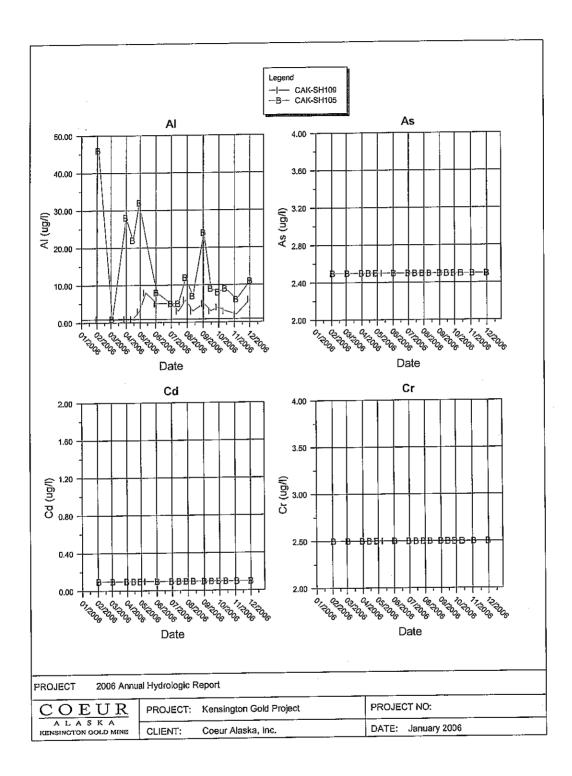


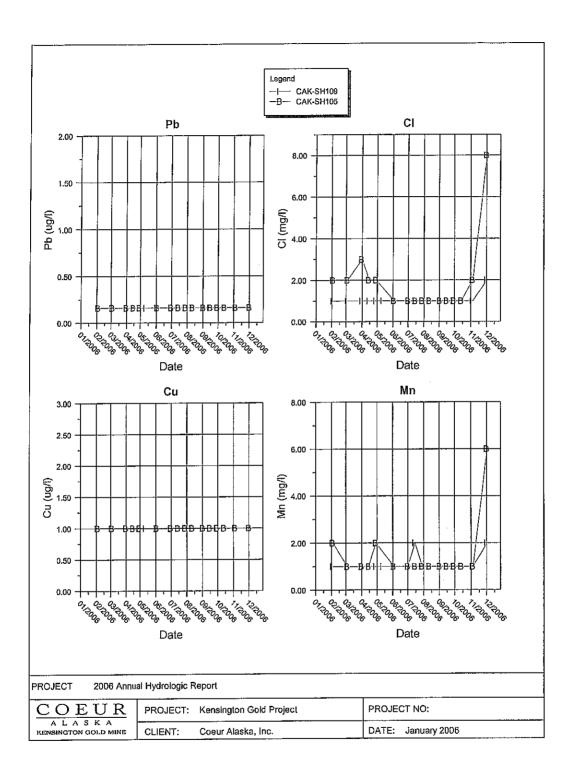


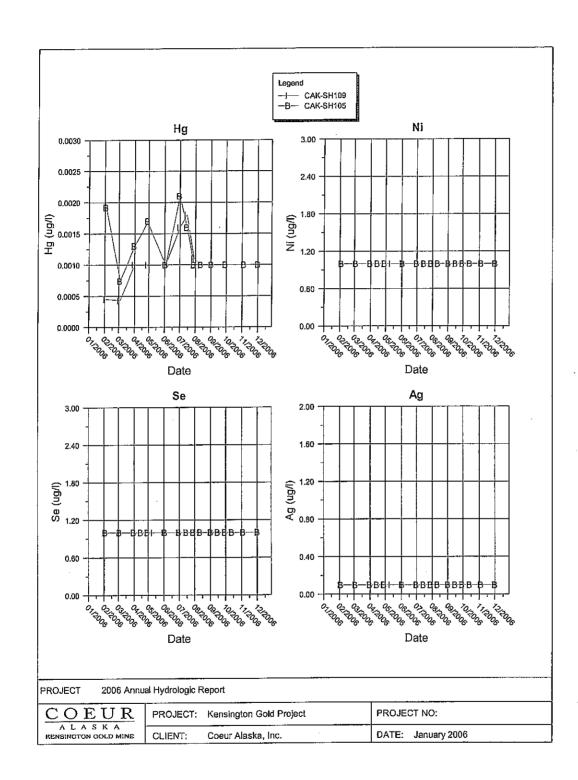


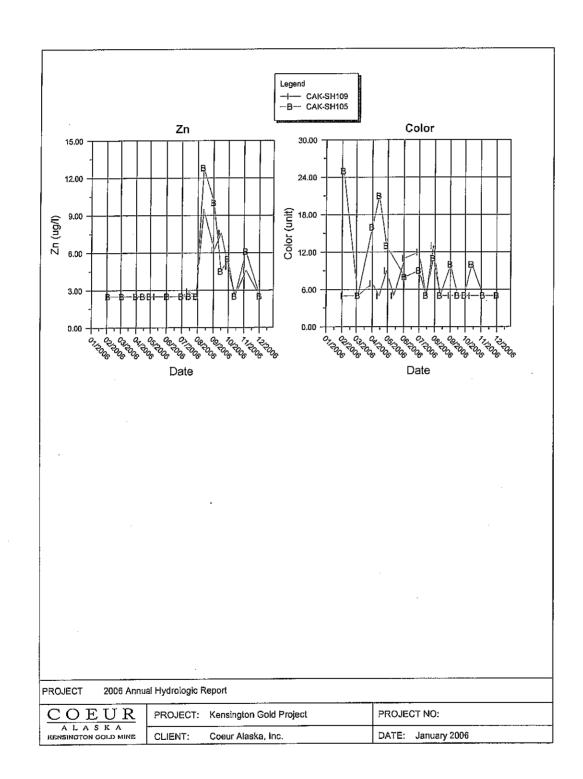


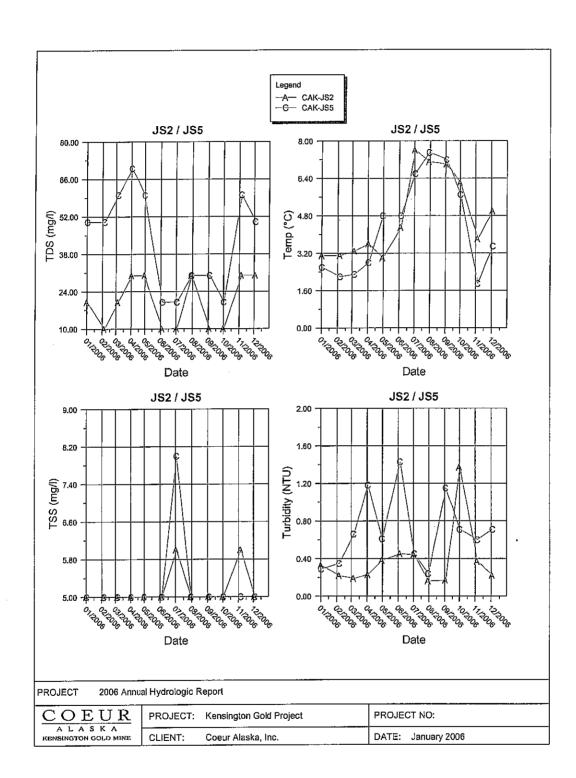


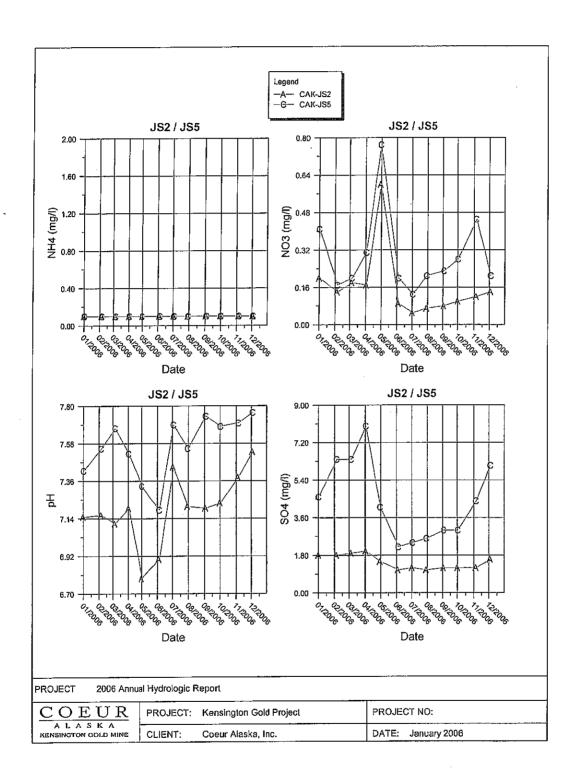


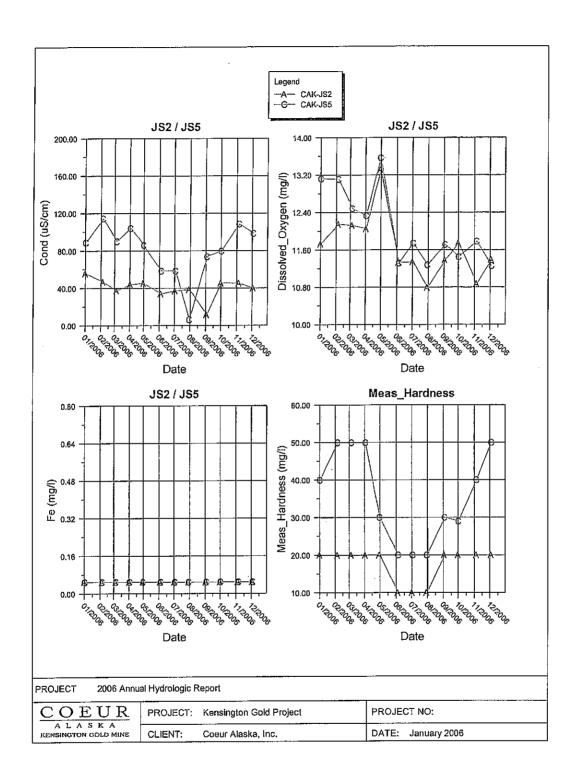


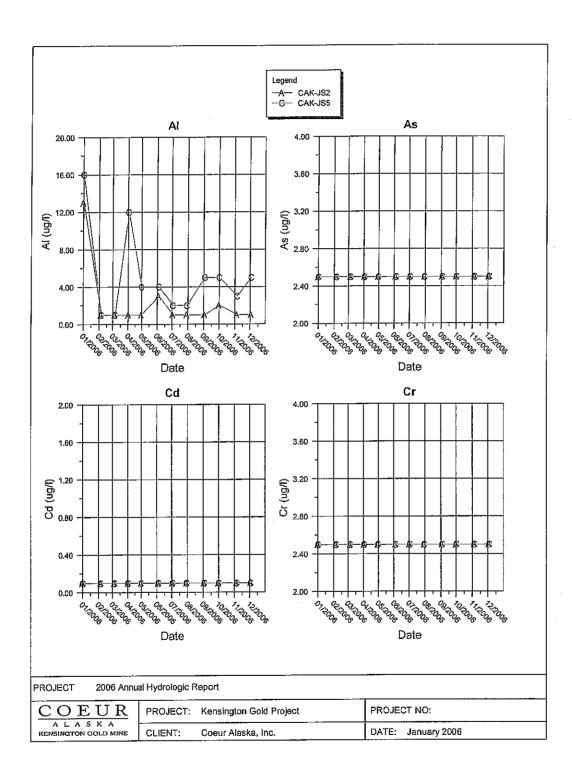


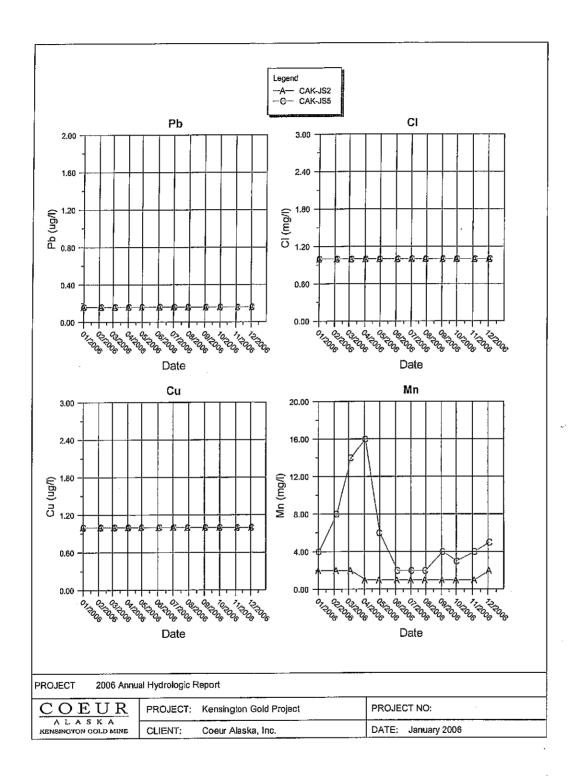


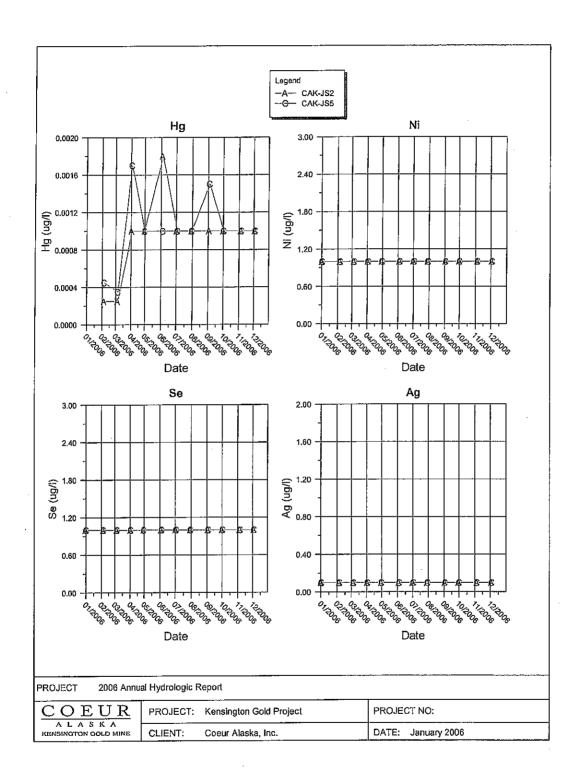


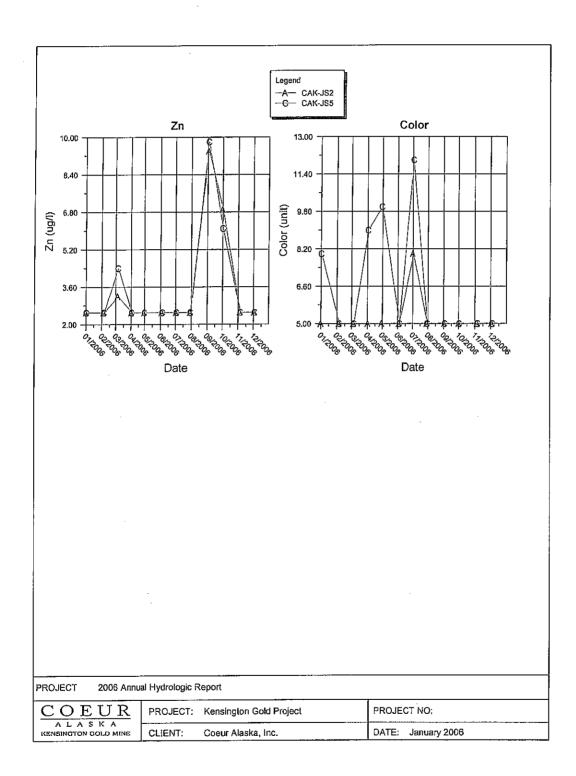


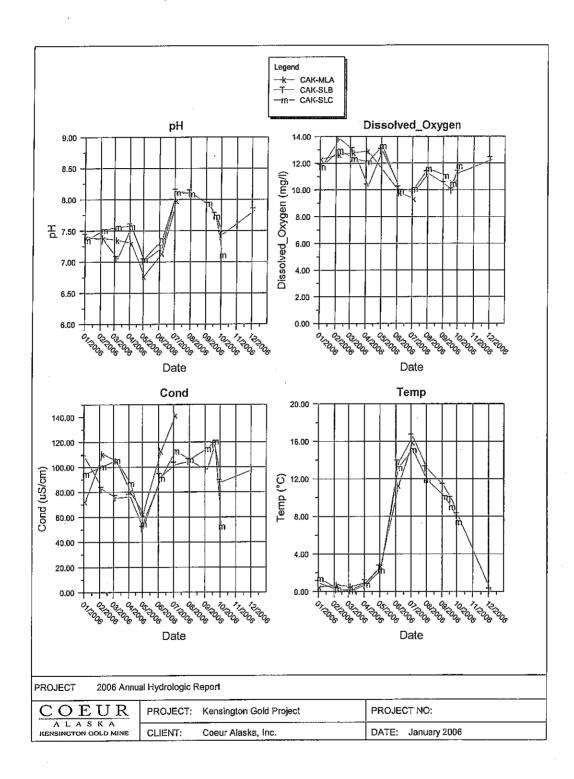


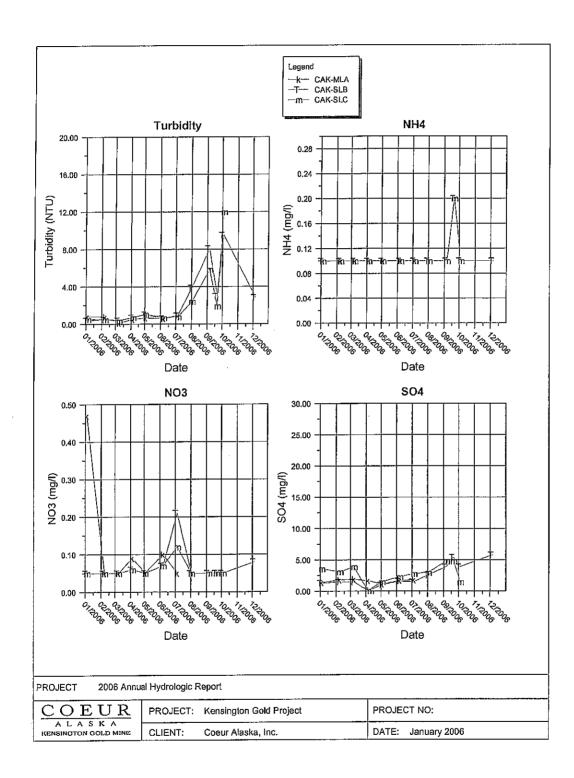


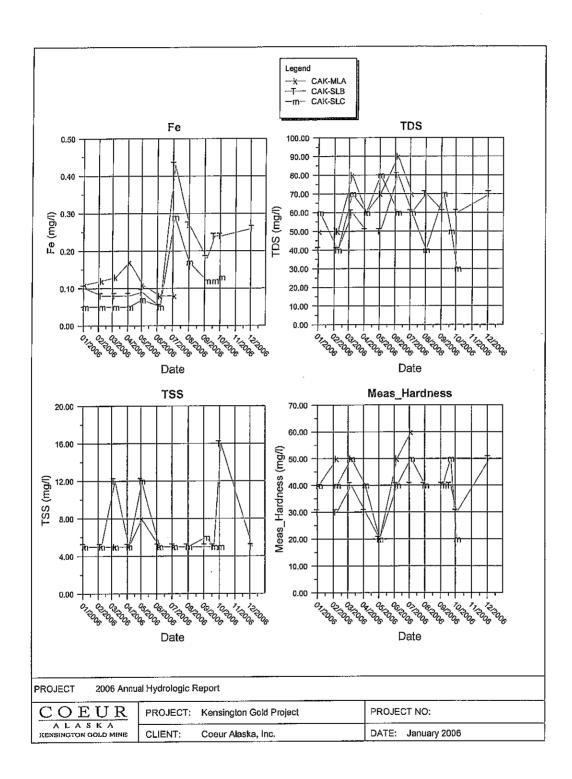


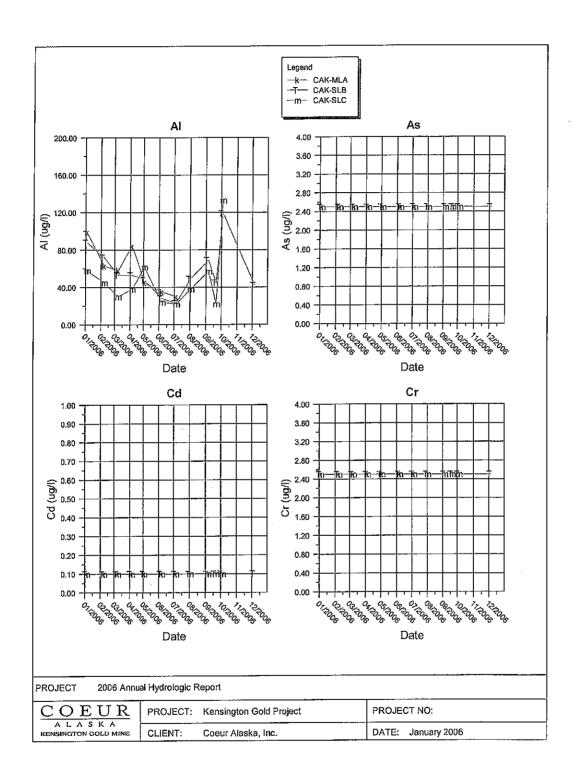


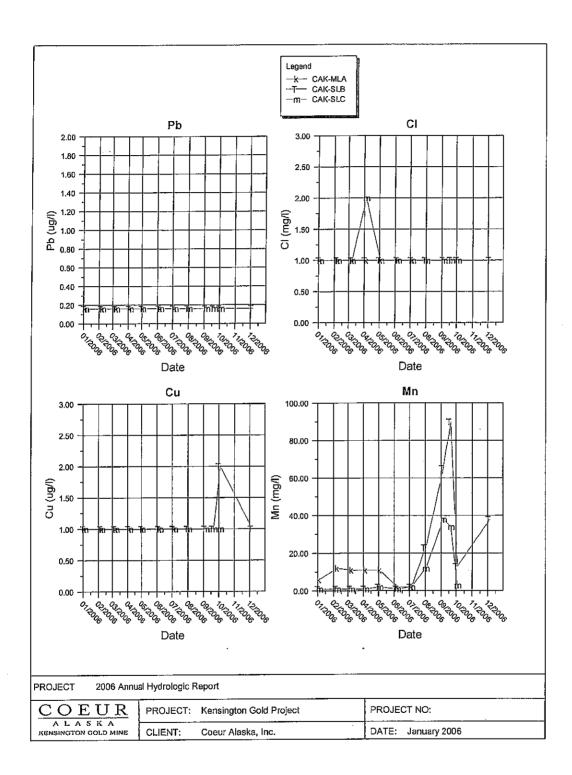


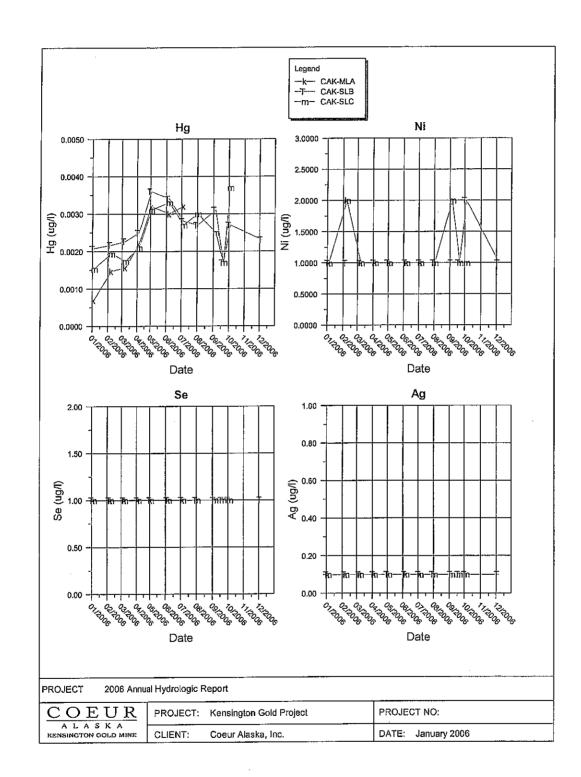


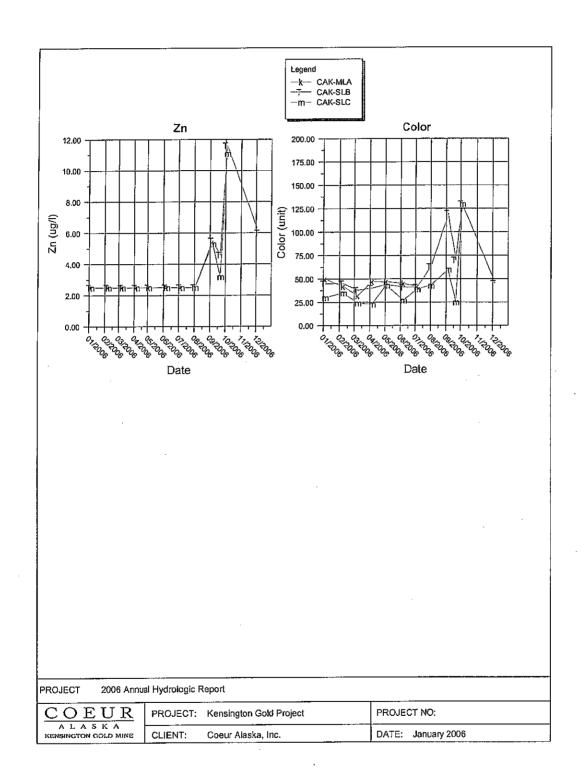


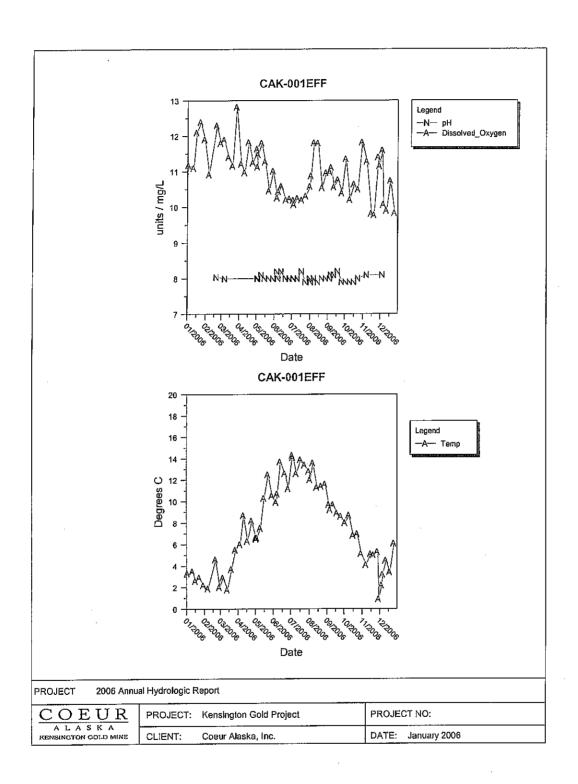


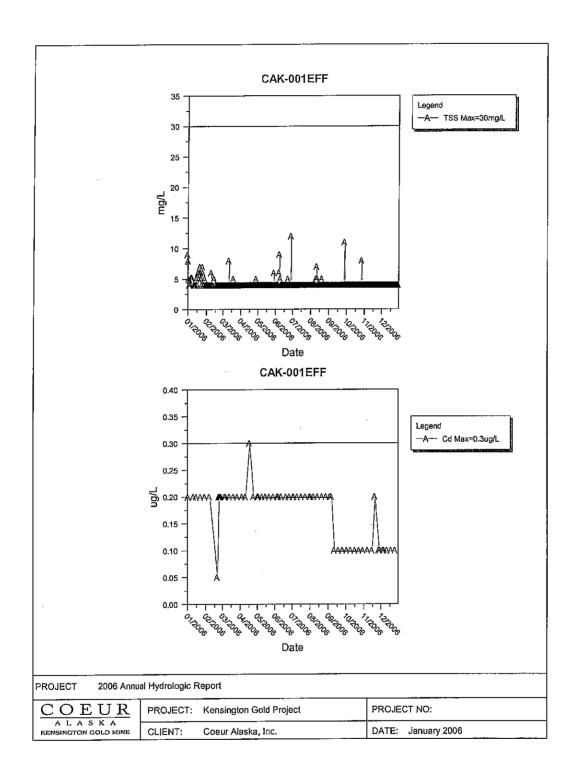




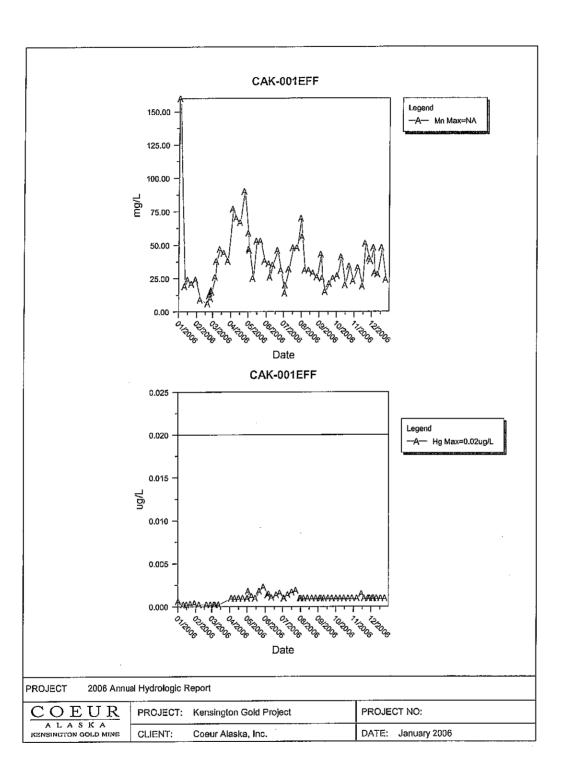


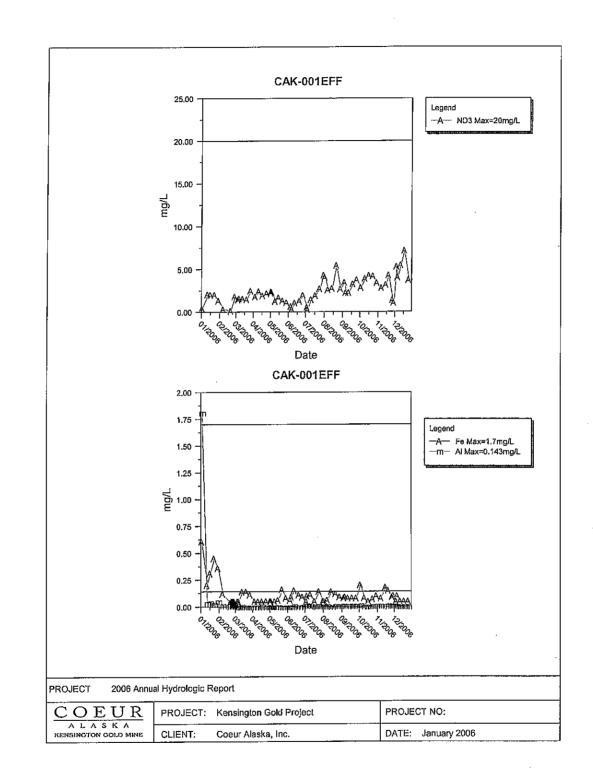




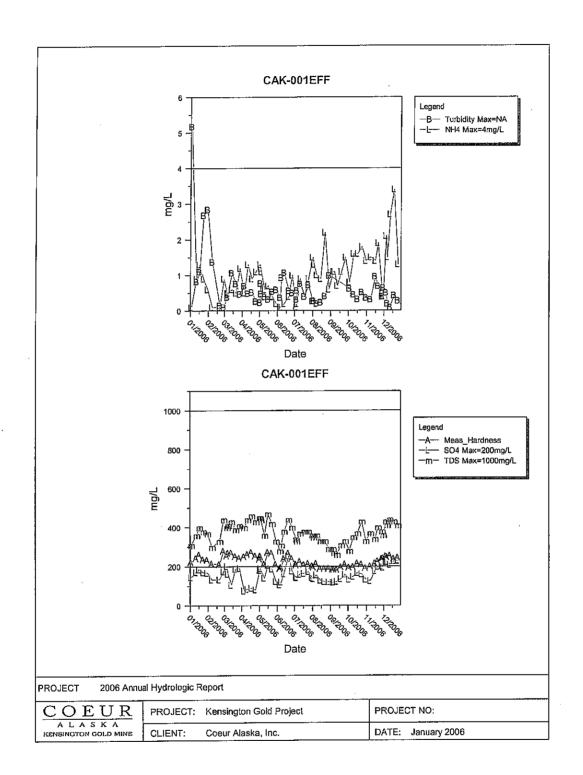


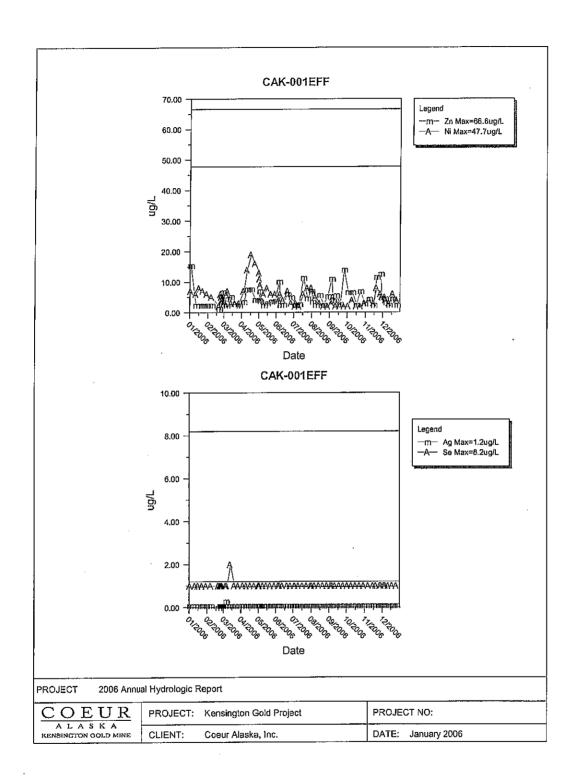
CAK-001EFF 18.00 Legend -A--- Cr Max=16ug/L - As Max=NA 14.40 10.80 ng/L 7.20 3.60 0.00 T 03/2006 T 091006 T 091006 1 07/2006 T 03/2006 7 03/006 - ONIDOE 1 051006 1 20:2006 1 77,2006 06,006 1 73,000 Date CAK-001EFF 16.00 15.00 14.00 Legend 13.00 -A- Pb Max=2.2ug/L 12.00 -m- Cu Max=7.3ug/L 11.00 10.00 9.00 ng/L 8.00 7.00 m 6.00 _ 5.00 4.00 7 3.00 2.00 1.00 ທາງງາ່າ ທ່າ nintrati 0.00 - 4444 777806 1 703006 1 737006 0712006 Date PROJECT 2006 Annual Hydrologic Report COEUR PROJECT: Kensington Gold Project PROJECT NO: A L A S K A CLIENT: DATE: January 2006 Coeur Alaska, Inc.



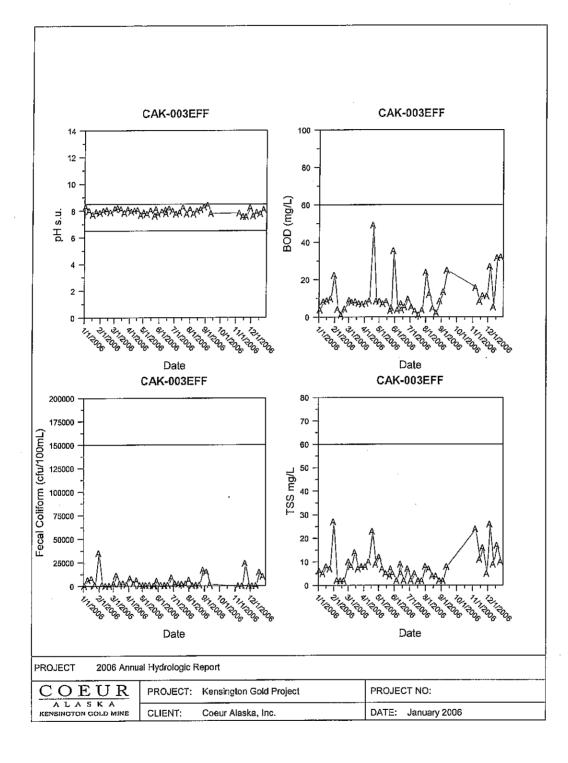


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Coeur Alaska, Inc. Kensington Gold Project 2006 Hydrologic Annual Report February 2007

Appendix A – Duplicate Comparison

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\frown	Parameter	Unit	Sample1	Sample2	Mean	liff	% diff >	<u>2000/ 2000</u>	-
$\left(\right)$	Sample ID	UIII	CAK-SH112d-20060801	CAK-SH112-20060801		200	70 UIII	20,70::	
	Sample Date		8/1/2006		3				
\sim	Analysis Date								
	Project								
	Water Type		Ca-SO4	Ca-SO4					
	shortWatertype								
	Comment								
	Reference								
	Quality control								
	Duplicate_ID		CAK-SH112d-20060801	CAK-SH112d-20060801					
	Lab Code								
							•		
	Ag	ug/l	0.1			0 1	0 66.7	- Yes	
	Al	ug/l	2 2.5			0	00.7 0	res	
	As Cd	ug/l	0.1			0	0	-	
	Cl	ug/l mg/l	1			0	0	-	
	EI. Conductivity	uS/cm		79.9	•	U	U	_	
	Cr	ug/l	2.5			0	0	-	
	Cu	ug/l		1.0		Ő	õ	-	
	Dissolved Oxygen	mg/l		11.21		-	-	-	
	Fe	mg/l	. 0.05			0	0	-	
	Ha	ug/i	0.001	0.0021	0.00155	-0.0011	71	Yes	
	Measured Hardness	mg/l	30	30	30	0	0	-	
	Mn	mg/l	1	1	1	0	0	-	
	NH4	mg/l	. 0.1	0.1	0.1	0	0	-	
	Ni	ug/l	1	1	-	0	0	-	
	NO3	mg/l	0.12	0.12		0	0	-	
	Pb	ug/l	0.16			0	0	-	
$\langle \rangle$	∖ pH			7.39				-	
) SO4	mg/l	8.2			0.09999943	1.2	-	
\smile	Total Dissolved Solids	mg/l	60			10	18.2	-	
	Temperature	°C	_	8.3				-	
	Total Suspended Solids	mg/l	5			. 0	0	-	
	Turbidity	NTU		0.12		4.0	40 5	- 	
	Zn	ug/l	4.1	2.5 1		1.6 · 0	48.5 0	Yes	
	Selenium	ug/l	1 7	15		-8	0 72.7	Yes	
	Color	unit	/	15	- 11	-8	12.1	res	

Parameter	Unit	Sample1	figer, segrer gryte 🖡 atototo o alle e confiderendenne nationer metro er entre service en e	Mean	Jiff	% diff 🗦	>20%?
Sample ID		CAK-SLAd-20060405	CAK-SLA-20060405				
Sampling Date		4/5/2006	4/5/2006				
Analysis Date							
Project		A 11	- ···				
Water Type		Ca-Mn	Ca-Mn				
shortWatertype							
Comment							
Reference Quality control							
Duplicate_ID		CAK-SLAd-20060405	CAK-SLAd-20060405				
Lab Code							
Lup could							
Ag	ug/l	0.1		0.1	0	0	-
A	ug/l	60		61.5	-3	4.9	-
As	ug/l	2.5		2.5	0	0	-
Cd	ug/l	0.1		0.1	0	0	-
Cl	mg/l	1		1	0	0	-
El. Conductivity	uS/cm		76.6				-
Cr	ug/l	2.5		2.5	0	0	-
Cu	ug/l	1	1	1	0	0	-
Dissolved Oxygen	mg/l		12.47		•	•	-
Fe	mg/l	0.11	0.11	0.11	0	0	-
Measured Hardness	mg/l	30		30 6.5	0	0 46.2	-
Mn NH4	mg/l	8 0.1	5 0.1	0.5	3 0	40.2 0	Yes
NH4 Ni	mg/l ug/l	0.1		0.1	0.	0	-
NO3	mg/l	0.06		0.055	0.009999998	18.2	-
Pb	ug/l	0.00		0.000	0.0000000000000000000000000000000000000	0.2	-
рH	ug/1	0.10	7.17	0.10	0	Ŭ	-
SO4	mg/l	2		1.05	1.9	181	Yes
Total Dissolved Solids	mg/l	60		55	10	18.2	-
Temperature	°C		1.3				-
Total Suspended Solids	mg/l	5		5	0	0	-
Turbidity	NTU		0.83				-
Zn	ug/l	2.5	2.5	2.5	0	0	-
Selenium	ug/l	1	1	1	0	0	-
Color	unit	41	43	42	-2	4.8	-

Parameter	Unit	Sample1	Sample2	Mean	diff	% diff	>20%?
Sample ID		CAK-SLCd-20060705	CAK-SLC-20060705	ning in die Confidential Bartakation	a per angelogin da novembri na belogin	eneberriek endelen	en inden som en
Sampling Date		7/5/2006	7/5/2006	;			
Analysis Date							
Project							
Vater Type		Са	Ca				
hortWatertype							
Comment							
Reference							
Quality control			0 . / OL O L 00000000				
Duplicate_ID		CAK-SLCd-20060705	CAK-SLCd-20060705				
ab Code							
\g	ug/l	0.1	0.1	0.1	0	0	-
Ň	ug/l	21	22	21.5	-1	4.7	-
\ S	ug/l	2.5	2.5	2.5	0	0	-
2d	ug/l	0.1	0.1	0.1	0	0	-
)	mg/l	1	1	1	0	0	-
El. Conductivity	uS/cm	112.9			0	0	-
У Г	ug/l	2.5			0	0	-
2u	ug/l	1	1	•	0	0	-
issolved Oxygen	mg/l	10.09			0	0	•
e	mg/l	0.29			0	0	-
lg	ug/l	0.0027		0.0027	0	0	-
leasured Hardness	mg/l	40	50		-10	22.2	Yes
1n	mg/l	1	2		-1	66.7	Yes
IH4	mg/l	0.1	0.1 1		0	0 0	-
1	ug/l	1 0.09			-0.02999999	0 28.6	- Yes
103 ?b	mg/l	0.09			-0.029999999 0	20.0 0	-
D H	ug/l	8.11	8.11		0	0	-
п Ю4	mg/l	2.7			-0.09999999	3.6	-
otal Dissolved Solids	mg/l	. 70	60		-0.03333333	15.4	-
emperature	°C	15.1	15.1		. 10	10.4 0	-
otal Suspended Solids	mg/l	5			0	ŏ	-
urbidity	NTU	0.74		-	-0.009999999	1.3	-
in	ug/l	2.5	2.5		0	0	-
Selenium	ug/i	1	1		0	Ō	-
Color	unit	34	39	36.5	-5	13.7	-

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Parameter	Unit	Sample1	Sample2	Mean d	iff	∕₀ diff >	20%?
Sample ID		CAK-SLCd-20061004	CAK-SLC-20061004				
Sampling Date		10/4/2006	10/4/2006				
Analysis Date							
Project		_					
Water Type		Ca	Ca-Mn				
shortWatertype							
Comment							
Reference							
Quality control	•	CAK-SLCd-20061004	CAK-SLCd-20061004				
Duplicate_ID Lab Code		CAR-51.Cd-20061004	CAR-3LC0-20001004				
Lab Gode							
Ag	ug/l	0.1	0.1	0.1	0	0	-
Al	ug/l	103	133	118	-30	25.4	Yes
As	ug/l	2.5	2.5	2.5	0	0	-
Cd	ug/l	0.1	0.1	0.1	0	0	-
Cl	mg/l	1	1	1	0	0	-
El. Conductivity	uS/cm		52.7				-
Cr	ug/l	2.5	2.5	2.5	0	0	-
Cu	ug/l	1	1	1	0	0	-
Dissolved Oxygen	mg/l		11.8				• 1
Fe	mg/l	0.13	0.13	0.13	0	0	-
Hg	ug/l	0.0038	0.0037	0.00375	0.0001	2.7	-
Measured Hardness	mg/l	20	20	20	0	0	-
Mn	mg/l	1	3	2	-2	100	Yes
NH4	mg/l	0.1 1	0.1 1	0.1 1	0	0 0	-
Ni	ug/l ma/l	0.05	0.05	0.05	0	0	-
NO3 Pb	mg/l ug/l	0.05	0.05	0.05	0	0	-
_ pH	ugn	0.10	7.11	0.10	0	U	-
SO4	mg/l	1.5	1.5	1.5	0	0	_
Total Dissolved Solids	mg/l	30	30	30	0 0	õ	-
Temperature	°C		7.4		Ū	Ū	-
Total Suspended Solids	mg/l	8	5	6.5	3	46.2	Yes
Turbidity	NTU	8.3	12	10.15	-3.7	36.5	Yes
Zn	ug/l	4.2	11.1	7.65	-6.900001	90.2	Yes
Selenium	ug/l	1	. 1	1	0	0	-
Color	unit	130	130	130	0	0	-

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	Parameter Sample ID Sampling Date Analysis Date Project	Unit	Sample1 CAK-001EFF-20061031 10/31/2006	CAK-001EFFd-20061031	Mean	diff and a second s	% diff >	>20%?	
	Water Type shortWatertype Comment Reference		Ca-Mn-SO4	Ca-Mn-SO4					
	Quality control Duplicate_ID Lab Code		CAK-001EFFd-20061031	CAK-001EFFd-20061031					
	Ag	ug/l	0.1	0.1	0.05	0	0	-	
	Al	ug/l	10		9	2	22.2	Yes	
	As	ug/l	2.5		1.25	0	0	-	
	Cd	ug/l	0.1	0.1	0.05	0	0	-	
	Cr	ug/i	2.5					-	
	Cu	ug/l	1	1	0.5	0	0	-	
	Dissolved Oxygen	mg/l	11.82					-	
	Fe	mg/l	0.1	0.09	0.095	0.009999998	10.5	-	
	Hġ	ug/l	0.001	0.001	0.0005	0	0	-	
	Measured Hardness	mg/l	193	193	193	0	0	-	
	Mn	mg/l	23	21	22	2	9.1	-	
	NH4	mg/l	1.4	1.4	1.4	0	0	-	
	Ni	ug/l	3	3	3	0	0	-	
	NO3	mg/l	3.41	3.27	3.34	0.1400001	4.2	-	
	Pb	ug/l	0.16	0.16	0.08	0	0	-	
	SO4	mg/l	134	135	134.5	-1	0.7	-	
	Total Dissolved Solids	mg/l	330	310	320	20	6.3	-	
	Temperature	°C	5.1					-	
)	Turbidity	NTU	0.36		_			-	
	Zn	ug/l	2.9		2.8	0.2	7.1		
	Selenium	ug/l	1	1	0.5	0	0	•	

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Parameter	Unit	Sample1	Sample2	Mean d	iff	% diff :	>20%?
Sample ID		CAK-JS2d-20060306	CAK-JS-2-20060306				
Sampling Date		3/6/2006	3/6/2006				
Analysis Date							
Project							
Water Type		Са	Ca-Mn				
shortWatertype							
Comment							
Reference							
Quality control			0 M / 100 / 00000000				
Duplicate_ID		CAK-JS2d-20060306	CAK-JS2d-20060306				
Lab Code							
Ag	ug/l	0.1	0.1	0.1	0	0	-
A	ug/l	1	1	1	0	0	-
As	ug/l	2.5		2.5	0	0	-
Cd	ug/l	0.1		0.1	0	0	-
Cl	mg/l	1	1	1	0	0	-
El. Conductivity	uS/cm		37.5				-
Cr	ug/l	2.5		2.5	0	0	-
Cu	ug/l	1	. 1	1	0	0	-
Dissolved Oxygen	mg/l		12.12	0.05		•	-
Fe	mg/l	0.05		0.05	0	0	-
Hg	ug/l	00	0.00025	00	0	0	-
Measured Hardness Mn	mg/l	20 1	20	20 1.5	0 -1	0 66.7	- Yes
MH4	mg/l	0.1	0.1	0.1	-1 0	00.7	-
Ni-	mg/l ug/l	1	. 0.1	1	0	0	-
NO3	mg/l	0.16	-	0.17	-0.02000001	11.8	_
Pb	ug/l	0.17	0.16	0.165	0.01000001	6.1	-
рн	ug/i	0.17	7.11	0.100		0.1	-
	mg/l	1.9	1.9	1.9	0	0	-
Total Dissolved Solids	mg/l	30	20	25	10	40	Yes
Temperature	°Č		3.3				-
Total Suspended Solids	mg/l	5	5	5	0	0	-
Turbidity	NTU		0.19				-
Zn	ug/l	3.4	3.2	3.3	0.2	6.1	-
Selenium	ug/l	1	1	1	0	0	-
Color	unit	5	5	5	0	0	-

Parameter	Unit	Sample1		Mean c	liff	% diff	>20%?
Sample ID		CAK-JS4d-20061204	CAK-JS4-20061204				
Sampling Date		12/4/2006	12/4/2006				
Analysis Date							
Project							
Water Type		Ca-Mn					
shortWatertype							
Comment							
Reference							
Quality control							
Duplicate_ID		CAK-JS4d-20061204					
Lab Code							
Ag	ug/l	0.1	0.1	0.1	0	0	-
Al	ug/l	10	11	10.5	-1	9.5	-
As	ug/l	2.5	2.5	2.5	0	0	-
Cd	ug/l	0.1	0.1	0.1	0	0	-
Cl	mg/l	1	1	1	0	0	-
El. Conductivity	uS/cm		120.8				-
Cr	ug/l	2.5	2.5	2.5	0	0	-
Cu	ug/l	1	1	1	0	0	-
Dissolved Oxygen	mg/l		11.91				-
Fe	mg/l	0.05	0.05	0.05	0	0	-
Hg	ug/l	0.001	0.001	0.001	0	0	-
Measured Hardness	mg/l	60	60	60	0	0	-
Mn	mg/l	13	14	13.5	-1	7.4	-
NH4	mg/l	0.2	0.1	0.15	0.1	66.7	Yes
Ni	ug/l	1	1	1	0	0	-
NO3,	mg/l	0.31	0.31	0.31	0	0	-
Pb	ug/l	0.16	0.16	0.16	0	0	-
pН			7.82				-
SO4	mg/l	8	8	8	0	0	-
Total Dissolved Solids	mg/l	70	70	70	0	0	-
Temperature	°C		2.2				-
Total Suspended Solids	mg/l	5	5	5	0	0	-
Turbidity	NTU	0.3	0.26	0.28	0.04000002	14.3	-
Zn	ug/l	2.5	3.1	2.8	-0.5999999	21.4	Yes
Selenium	ug/l	1	. 1	1	0	0	-
Color	unit	5	5	5	0	0	-

arameter	Unit	Sample1	Sample2	Mean c	liff	% diff 🗦	>20%?
ample ID		CAK-SH105d-20060502	CAK-Sh-105-20060502				
Sampling Date		5/2/2006	5/2/2006				
Analysis Date							
Project		0= 004	Ca-SO4				
Water Type		Ca-SO4	Ca-504				
shortWatertype							
Comment Reference							
Quality control							
Duplicate_ID		CAK-SH105d-20060502	CAK-SH105d-20060502				
Lab Code		CAR-3H 1050-20000302	CAR-3111030-20000302				
Ag	ug/l	0.1	0.1	0.1	0	0	-
Al	ug/l	19	32	25.5	-13	51	Yes
As	ug/l	2.5	2.5	2.5	0	0	-
Cd	ug/l	0.1	0.1	0.1	0	0	-
Cl	mg/l	2	2	2	0	0	-
El. Conductivity	uS/cm		112.3				-
Cr	ug/l	2.5	2.5	2.5	0	0	-
Cu	ug/l	1	1	1	0	0	-
Dissolved Oxygen	mg/l		12.95				-
Fe	mg/l	0.05	0.07	0.06	-0.02	33.3	Yes
⊣g	ug/l	0.0017	0.0017	0.0017	0	0	-
Veasured Hardness	mg/l	50	40	45	10	22.2	Yes
Vin	mg/l	1	2	1.5	-1	66.7	Yes
NH4	mg/l	0.1	0.1	0.1	0	0	-
<u>VI</u>	ug/l	1	1	1	0	0	-
NO3	mg/l	0.27	0.32	0.295	-0.04999998	16.9	-
Pb	ug/l	0.16	0.16	0.16	0	0	-
рН			7.27				•
SO4	mg/l	10.3	10.3	10.3	0	0	-
Total Dissolved Solids	mg/l	70	100	85	-30	35.3	Yes
Temperature	°C		3.1				-
Total Suspended Solids	mg/l	5	5	5	0	0	-
Turbidity	NTU		1.71			_	-
Zn	ug/l	2.5	2.5	2.5	0	0	-
Selenium	ug/l	1	1	1	0	0	-
Color	unit	12	13	12.5	-1	8	-

	Parameter Sample ID Sampling Date Analysis Date Project	Unit	Sample1 CAK-SH105d-20060606 6/6/2006	Sample2 CAK-Sh-105-20060606 6/6/2006	Mean	diff	% diff ∷≯	×20%?
	Water Type shortWatertype Comment Reference Quality control		Ca-SO4	Ca-SO4				
	Duplicate_ID Lab Code		CAK-SH105d-20060606	CAK-SH105d-20060606				
	Ag	ug/l	0.1	0.1	0.1	0	0	-
	Al	ug/l	8	8	8	0	0	-
	As	ug/l	2.5	2.5	2.5	0	0	-
	Cd	ug/l	0.1	0.1	0.1	0	0	-
	Cl	mg/l	1	1	1	0	0	-
	El. Conductivity	uS/cm	70.4	70.4	70.4	0	0	-
	Cr	ug/l	2.5	2.5	2.5	0	0	-
	Cu	ug/l	1	1	1	0	· 0	-
	Dissolved Oxygen	mg/l	11.83	11.83	11.83	0	0	-
	Fe	mg/l	0.05	0.05	0.05	0	0	-
	Hg	ug/l	0.002	0.001	0.0015	0.001	66.7	Yes
	Measured Hardness	mg/l	30	30	30	0	0	-
	Mn	mg/l	1	1	1	0	0	-
	NH4	mg/l	0.1	0.1	0.1	0	0	-
	NI	ug/l	1	· 1	1	0	0	-
	NO3	mg/l	0.1	0.1	0.1	0	0	-
	Pb	ug/l	0.16	0.16	0.16	0	0	-
\frown	рH		8.48	8.48	8.48	0	0	-
)	SO4	mg/i	4.8	4.8	4.8	0	0	-
	Total Dissolved Solids	mg/l	80	60	70	20	28.6	Yes
<u> </u>	Temperature	°C	5.5	5.5	5.5	0	0	-
	Total Suspended Solids	mg/l	5	5	5	0	0	-
	Turbidity	NŤU	0.55	0.79	0.67	-0.24	35.8	Yes
	Zn	ug/l	2.5	2.5	2.5	0	0	-
	Selenium	ug/l	1	1	1	0	0	-
	Color	unit	11	8	9.5	3	31.6	Yes

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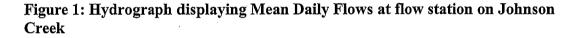
Appendix B – Flow Summary Report

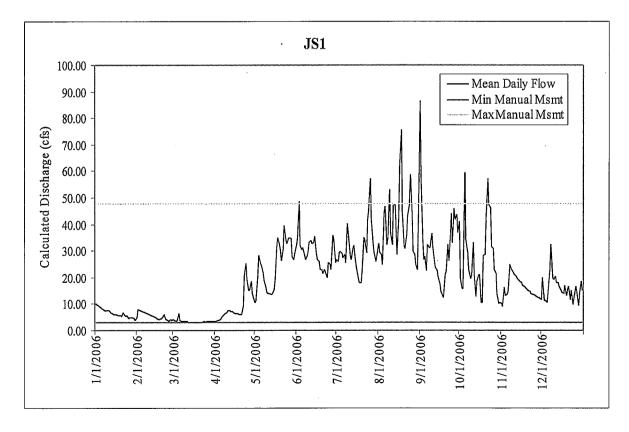
The Kensington Gold Project, Juneau, Alaska currently maintains flow stations on Johnson, Slate and Sherman Creeks for the purpose of collecting continuous flow data.

As shown on the map in Figure 4, Station JS1 is located on Johnson Creek in the area of the temporary mine camp. Station SLA is located on Slate Creek approximately 100 meters downstream of Lower Slate Lake. Station SH105 is located approximately 50 meters upstream of the mouth of Sherman Creek.

Each flow station is monitored by a water stage data logger (pressure transducer) that collects pressure measurements at 15 minutes intervals, and at least monthly visits by environmental personnel to manually measure stream discharge and water level height (staff gage).

The hydrographs presented in Figures 1-3 display calculated mean daily flows for Johnson, Slate and Sherman Creeks during 2006. Mean daily flows are based on data from continuous in-stream pressure transducers. Calculated discharges outside the range of measured discharges should be considered extrapolated.





Station JS1 on Johnson Creek had the most attention of all the flow stations with frequent maintenance visits and manual discharge measurements. During 2006, a total of . 25 manual measurements were conducted at JS1 with flows ranging from 3.19 cfs to 47.84 cfs. The cross section remained relatively free of ice coverage during most of the year, enabling low flow manual measurements. Continuous transducer pressure data was available the entire year with the exception of 13 days in February (2/3 thru 2/15). Thus, the calculated discharges based on actual pressure transducer data constitute approximately 96.4% of the mean daily flows displayed in the above graph.

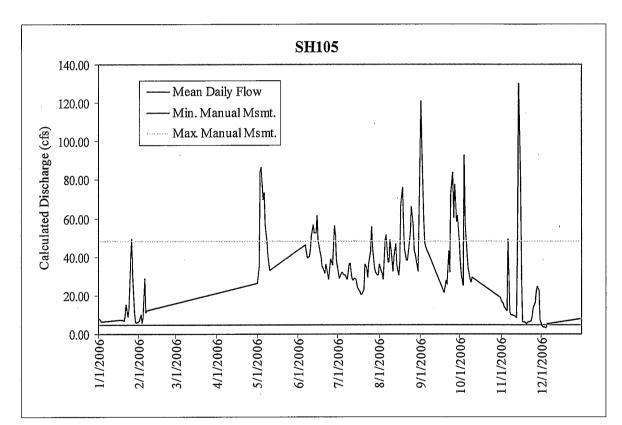
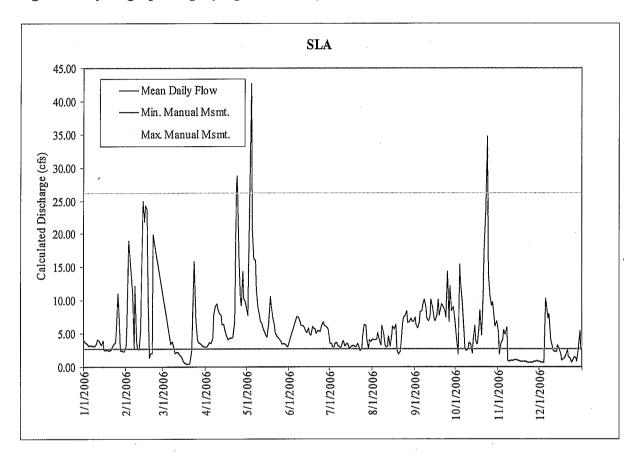


Figure 2: Hydrograph displaying Mean Daily Flows at flow station on Sherman Creek

Station SH105 on Sherman Creek was especially plagued with transducer malfunctions and washouts during 2006. The transducer used at this site was replaced twice and finally relocated adjacent to the staff gage in a more protected location. As a result of these problems, the calculated discharges based on actual pressure transducer data constitute approximately 50% of the mean daily flows displayed in the above graph. The greatest number of consecutive days during which the transducer was inoperable occurred between 2/8 and 4/30. Other times in which continuous data was unavailable

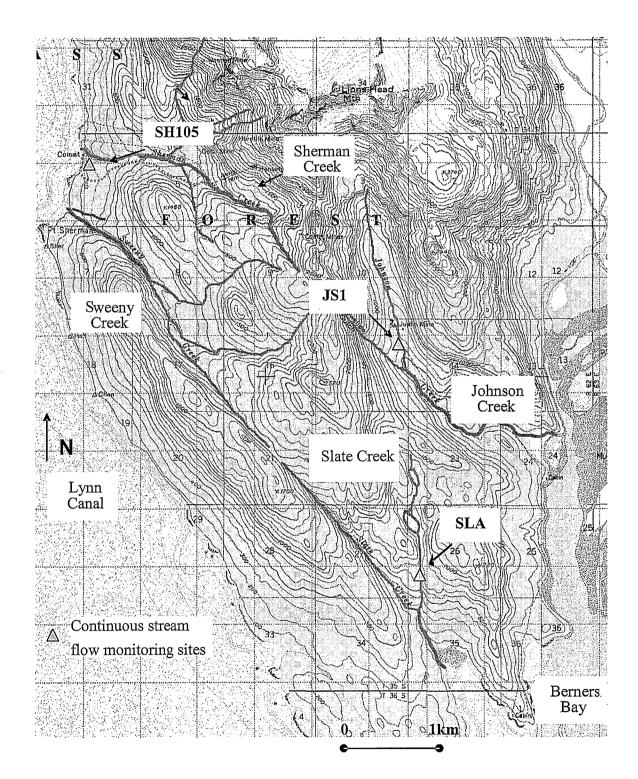
include 5/10 to 6/6 and 12/5 to 12/30. Therefore, the mean daily flows for these time periods should be considered extrapolated.





Station SLA on Slate Creek experienced freezing conditions much of the winter which prevented low flow manual discharge measurements. During 2006, a total of 8 manual measurements were conducted at SLA with flows ranging from 2.65 cfs to 26.13 cfs. Continuous transducer pressure data was available the entire year with the exception of 6 days in June (6/1 to 6/6). 14 days of flow data were removed due to erroneous data. Thus, the calculated discharges based on actual pressure transducer data constitute approximately 94.5% of the mean daily flows displayed in the above graph.

Figure 4: Stream flow monitoring sites on Sherman, Slate and Johnson Creeks.



Stream Flow Analysis 2006