FRESHWATER MONITORING PLAN FOR THE KENSINGTON GOLD PROJECT

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1.0 INTRODUCTION

The following Freshwater Monitoring Plan (FWMP) documents the sampling locations, analytical methods, and the quality assurance program for monitoring the quality of receiving waters associated with the Kensington Gold Project. The purpose of the FWMP is to meet US Forest Service (USFS) monitoring requirements, as dictated by its authority to regulate nonpoint source impacts on water quality. Additionally, the FWMP incorporates the receiving water monitoring requirements stipulated by the NPDES permit for the Kensington Gold Project (Permit No. AK-005057-1). Consolidation of these monitoring programs should eliminate unnecessary duplication and take advantage of the overlapping requirements.

The Kensington Gold Project (Project) is a proposed underground gold mine located approximately 45 miles north of Juneau in Southeast Alaska (Figure 1). The project covers both private lands and public lands managed by the United States Forest Service (USFS). Coeur Alaska, Inc. (Coeur), a wholly owned subsidiary of Coeur d'Alene Mines Corporation, is the operator.

The focus of the project is underground mining of a mesothermal gold deposit. The mine's life is estimated to be approximately 10 years, at a production rate of approximately 2,000 tons of ore and 400 tons of underground development rock (waste rock) per day.

The major components associated with the Project are an underground mine, mill site, a tailings storage facility (TSF), two waste rock repositories, borrow areas, an administrative office, maintenance and generator facilities, and a marine dock facility (Figure 2). Ancillary facilities include access roads, topsoil stockpiles, diversion systems, a wastewater facility, water supply, and other minor facilities.

Mining and milling would occur 365 days per year over the estimated 10-year life of the mine. Site reclamation and closure tasks are expected to be completed two years after cessation of all mining activities. Details regarding the mining project are provided in the Final Plan of Operations for the Kensington Gold Project.

This FWMP describes water quality monitoring at specified locations in the Sherman Creek, Slate Creek and Johnson Creek drainages. The Sherman Creek and Slate Creek monitoring will provide data to assess the conditions of the receiving stream above and below three NPDES permitted outfalls (Outfalls 001, 002 and 003). Additional monitoring stations are established in Sherman Creek, Slate Creek and Johnson Creek to monitor surface water quality conditions above and below potential nonpoint sources associated with mine facilities. Monthly and annual reports regarding the results of the freshwater monitoring program will be submitted to the USFS, the US Environmental Protection Agency (USEPA), the Alaska Department of Environmental Conservation (ADEC), and the Alaska Department of Natural Resources (ADNR).

2.0 MONITORING GOALS

The following monitoring goals have been developed to ensure that this FWMP will:

1. meet USFS monitoring requirements, as dictated by its authority to regulate nonpoint source impacts on water quality, and to comply with applicable state water quality standards;

2. ensure compliance with the receiving water monitoring requirements stipulated in NPDES Permit Number AK-005057-1;

3. ensure that data collected are of known and acceptable quality;

4. ensure that project-specific methods and procedures are implemented;

5. document pre-mine baseline and background water quality conditions;

6. characterize water quality conditions above and below NPDES permitted outfalls;

7. characterize water quality and hydrologic flow conditions above and below nonpoint source activities, and determine the effectiveness of best management practices (BMPs);

8. determine if there are trends in natural water quality variables or project related influences; and

9. result in the collection of data to be used for reclamation needs and any additional resource protection requirements, including instream flows for aquatic habitat protection and hydrologic characterization of water resources.

3.0 SAMPLING SITES

Sample sites are located throughout the Johnson Creek, State Creek and Sherman Creek Drainages. Sampling locations are described below in Section 3.2.

3.1 Sample Site Identification

Monitoring sites will be clearly identified in the field by driving a steel tee fence post on the stream bank at the monitoring location. The sample point name will be either written on the side of the post using a white paint pen or will be stamped into a metal nametag and attached to the post.

Sample site identification numbers are based on systems previously used for historic monitoring for the Kensington Gold Project. The nomenclature previously used includes numeric, alpha, and alpha-numeric designations. For example, for sites located in the Sherman Creek drainage, a

three digit numeric designation is used (e.g., 109), in the Slate Creek Drainage sites are designated using the SL- or ML- prefix combined with an alpha designation (e.g., SL-B), and in the Johnson Creek drainage an alpha numeric designation using a JS- prefix with a numeric designation is used (e.g., JS-4). Previous site identification schemes will be maintained to provide consistency with historic monitoring. New sample locations will be added using the next available designation for each system. Sites will not be renamed or names from abandoned sites reused to avoid confusion and error interpreting historic data.

3.2 Monitoring Station Locations

Figures 3 to 5 show the locations of receiving water monitoring stations throughout the project area. The site designation, and location and rational for site selection, are provided in Table 1.

Table 1 – Monitoring Station Locations and Rational

Site Designation	Location	Rational
Johnson Creek Drainage		
JS-2	Johnson Creek above the Jualin process area and development rock storage area.	Historic reference site to evaluate upstream surface water in Johnson Creek.
JS-5	Johnson Creek approximately 600 feet below the upper Johnson Creek bridge, located below contributing area of admin and laydown areas.	New site to be established below process area as required by the NPDES permit.
JS-4	Johnson Creek at the lower Johnson Creek Bridge.	Historic monitoring point selected to evaluate cumulative water quality down gradient of process area, upper borrow sites and TSF road.
Slate Creek Drainage		
ML-A	Mid Lake Slate Creek at the proposed diversion inlet structure.	Existing site to evaluate upstream surface water in upper Slate Creek as required by the NPDES permit.
SL-B	Slate Creek 10 meters upstream from the confluence with the West Fork Slate Creek.	Downstream site to monitor water quality in Slate Creek above the confluence with the West Fork Slate Creek as required by the NPDES permit.
SL-C	Slate Creek 30 meters downstream of the confluence with the West Fork Slate Creek.	Downstream site to monitor cumulative water quality in Slate Creek below the confluence with the West Fork Slate Creek as required by the NPDES permit.
TSF-SCS	Tailings Dam Seepage Collection System	Evaluation of tailings dam seepage collection system water quality.

Sherman Creek Drainage		
109	Upper Sherman Creek above the Kensington Mine site.	Historic reference site to evaluate upstream surface water in Sherman Creek
112	Upper Ophir Creek above the Kensington development rock site.	Proposed reference site to evaluate upstream surface water in Ophir Creek
111	Sherman Creek located below the mixing zone for Outfall 001.	Proposed monitoring site located below Outfall 001 to evaluate water quality down gradient of Outfall 001 as required by the NPDES permit
103	Ophir Creek above the confluence with Ivanhoe Creek.	Existing monitoring point to evaluate water quality below the Kensington development rock site.
105	Sherman Creek above Comet Beach.	Historic monitoring point to evaluate cumulative water quality down gradient of Kensington site required by the NPDES permit.

4.0 MONITORING SCHEDULE

The receiving water monitoring stations identified in Table 1 will be monitored monthly as indicated in Table 2. Each of the receiving water monitoring locations will be monitored monthly for the parameters listed in Section 6.2.

Table 2 – Receiving Water Monitoring Schedule

Monitoring Station	Monitoring Frequency	Sample Type
JS-2	Monthly	Grab
JS-5	Monthly	Grab
JS-4	Monthly	Grab
ML-A	Monthly	Grab
SL-B	Monthly	Grab
SL-C	Monthly	Grab
TSF-SCS	Quarterly	Grab
109	Monthly	Grab
112	Monthly	Grab
103	Monthly	Grab
112	Monthly	Grab
105	Monthly	Grab

Flows within the tailings dam seepage collection system (TSF-SCS) are contained and pumped back to the tailings lake. Quarterly monitoring at this location is proposed to characterize the quality of seepage flows.

5.0 FIELD SAMPLE COLLECTION AND HANDLING PROCEDURES

5.1 Overview

Monitoring of receiving waters will be completed at all of the locations identified in Table 1. The scope of the monitoring will include field analysis for the parameters described below, and collection of samples for the laboratory analysis as described in Section 6.

5.2 Sampling Materials and Equipment

The contract laboratory will provide certified pre-cleaned and pre-tested sample bottles. Labeling of sample bottles is described in Section 5.3.

Filters for dissolved metals samples are received in sealed cartons. Upon opening the carton, the Certificate of Quality is removed, the date of the carton opening is written on the certificate, and the certificate is filed. If a certificate is not found in the carton, the filters will be discarded.

Field Equipment and supplies should include the following:

Field Instruments and Supplies

Dissolved Oxygen Meter
Handheld Barometer
pH Meter
Thermometer
Field notebook
Flow meter
Tape measure

Field Laboratory Instruments and Supplies:

Conductivity Meter
Conductivity Standards
pH standards
Turbidimeter
Nalgene disposable 0.45 micrometer filter units
Gelex Standard
Kimwipes
Calibration Logs
Preservatives

Sample Bottles and Miscellaneous Equipment:

Field Data Sheets
Coolers
Chain of Custody Records and Seals
Sample Inventory Checklist

pH Paper
Ziploc Bags
Blue Ice
Prelabeled Teflon Sample Bottles (for Method 1631 mercury analyses)
Safety Equipment
Waterproof Marker
Camera
Prelabeled Polyethylene Sample Bottles and Preservatives

5.3 Sample Labeling System

The sample bottle is labeled prior to sampling with client and project name (Coeur Alaska, Kensington Gold Project), watershed (Johnson, Slate or Jualin), sampling site location, date and time, and sampler's name. The sampling time is noted on the bottle immediately prior to sample collection. Each bottle should be labeled to identify when sample preservation and filtration has occurred. Sample bottles used for this project are pre-labeled and color-coded for the parameters to be measured. Labeling shall be completed using a waterproof permanent ink pen.

5.4 Field Sample Collection

Field Data Sheets will be used in conjunction with each sampling event (see Attachment 1). The data sheet will be useful for tracking the inventory of bottles prior to going to the field, and inventorying sample and field parameter collection at each monitoring location.

Samples are collected at the same location on each sampling event, to ensure comparability of sample results. If conditions prevent sampling at the same precise location, a note of the change is made in the field notes.

If a sample requires the use of several bottles, the bottles are filled consecutively, with the recorded sample time being the time the first bottle is immersed in the water.

While collecting all samples in sample bottles, bottle caps must be held or placed so that the inside of the lid or rim of the sample bottle is not contaminated. The only substance to come in contact with the inside of the sample bottle and lid will be the sample.

Receiving water samples are collected from streams. The stream sampling sites are approached from downstream. If streams must be crossed to enable sample collection, crossing downstream of the sampling site is essential.

The samples are collected from a well-mixed portion of the stream. Sample bottles are held in the middle of the bottle. Samples are collected by immersing each bottle in the stream with the opening underwater and facing upstream. Sample bottles should be inverted when submerged to prevent collection of floating surface debris. Sample bottles will be submerged three to four inches below the surface and rinsed three times before collecting the sample for analysis. In the event the sample bottle contains preservatives, the sample will be collected directly into the bottle without prior rinsing. Care must be taken not to contact the bottom of the stream with the sample bottle as this could cause sediment from the stream bottom to enter the sample bottle. Consecutive sample locations should be sampled beginning at the downstream location.

Samples are transported from the field sampling locations via a sampling backpack to the sampling staging area, which may be the treatment plant, or the onsite lab. Once at the sample staging area, the samples are immediately placed in a refrigerator or cooler with blue ice. Sample filtration and preservation of dissolved metals samples is discussed in Section 5.7.

Mercury analyses will be conducted in accordance with EPA Method 1631 during the June sampling event. Method EPA245.1 will be used during the other months. The 1631 analysis method requires special sample collection techniques, sample bottles, field blanks, and handling procedures. This procedure requires a two-person sampling team. The sampling and handling procedures have been provided by the contract laboratory and are included as Attachment 3.

5.5 Collection of Field Quality Control Samples

5.5.1 Field Duplicates

The analyses of field duplicate water samples are used to evaluate the precision of field sampling and laboratory analysis. Field duplicate samples will be collected in the same manner as the primary field sample by holding the two bottles side by side while filling. For surface water samples, field duplicate samples will be collected and inserted into the sample train at a frequency of once per each sampling event (this is equivalent to about 1 duplicate per 11 field samples). The sampling site for the duplicate sample set should be recorded in the field notebook, but not identified on the sample containers. During each event the location for obtaining duplicates shall be randomly rotated throughout the sites sampled. This sample location (site) should be identified as 099 on the sample bottles and chain of custody form.

5.5.2 Trip Blanks

Trip blanks consist of a sample of laboratory grade distilled-deionized water that is collected in the same type of container that is required for the analytical test and labeled as "Trip Blank, Do Not Open." Trip blanks are prepared by the laboratory at the time of sample bottle shipping and travel with the sample shipping cooler from the laboratory to the sampling site and back to the laboratory without being opened. A trip blank is analyzed by the laboratory to verify that no sample contamination occurred during the transportation or sampling operations of a project. If the trip blank has detectable quantities of the sought for analytes, it is possible that any positive results in the sample may be due to contamination. Conversely, if the trip blank does not have reportable quantities of the sought for analytes, then one can conclude that the samples were not contaminated during transportation or sampling, and the values reported are representative.

5.5.3 Field Blanks

Field blanks are required as part of the Method 1631 low-level analysis for mercury in water. A field blank is only required during the month on June when the 1631 analysis is conducted. For this, the contract laboratory will provide an additional Teflon sample bottle with each sampling kit (i.e., field blanks for mercury analysis will be conducted at a frequency of once per each sampling event, which is equivalent to approximately 1 duplicate per 11 field samples). The laboratory will also provide a bottle labeled “Double Deionized Water to be used for the field

blank." The contents of this bottle should be decanted into the extra Teflon sample container at the same time and location that the primary mercury analysis bottle is being prepared, and then it should be treated as if it were a field sample.

5.6 Field Analyses

Required field analyses are pH, conductivity, turbidity, dissolved oxygen, and temperature. Field analysis for each of these parameters is described below along with a description of calibration procedures for field instruments. Flow is also recorded in the field.

5.6.1 Dissolved Oxygen, Temperature and pH

Dissolved oxygen, temperature, and pH are measured in the field. Dissolved oxygen, temperature and pH can change too quickly to allow measurement other than in the field. For pH measurements, Automatic Temperature Compensating (ATC) probes are used which adjust values for temperature, to 25° C. These readings are measured directly in the stream.

5.6.2 Conductivity and Turbidity

Turbidity and conductivity will be measured at the onsite lab using a separate sample bottle collected for that purpose, as soon after sampling as possible and always within 18 hours of sampling. Conductivity will be measured in the field at Slate and Johnson Creeks due to the lack of indoor facilities on the Jualin side of the project. Once the new facilities are constructed measurements may be completed in the new field lab. For conductivity measurements, automatic temperature compensating (ATC) probes are used which adjust values for temperature, to 25° C.

5.6.3 Flow

Stream flow will be mechanically monitored on a continuous basis at at-least one location in each of the three primary watersheds. Continuous flow monitoring at these locations is conducted using a pressure transducer that continuously records the stream stage. The stream stage and stream flow are being compared on a monthly basis to develop a state-discharge relationship. The continuous stream stage measurements have recently been converted to continuous flow estimates based on this exercise. This practice will continue, and become better refined, for the life of the operation. During sampling events, manual flow monitoring is conducted to develop and update the discharge relationship between the transducer and the actual in-stream flow.

Flow measurements are being recorded in the Johnson Creek Drainage at a site located on the north side of the upper Johnson Creek bridge crossing. This location is upstream of the proposed infiltration gallery (approximately 100 feet), which will be located immediately upstream of the Johnson Creek bridge crossing, near the Administration area. Continuous monitoring at this location is conducted using a pressure transducer that continuously records the stream stage.

Flow monitoring is being conducted on Mid Lake Slate Creek upgradient of Lower Slate Lake. Monitoring in this area will be relocated to the diversion inlet structure once constructed. Continuous flow monitoring is also being completed below Lower Slate Lake at SL-A. In

addition to flow monitoring in this drainage, Coeur will comply with monitoring and reporting conditions included as part of the water right permit, including monitoring reservoir levels and stream flows.

A new flow monitoring station will be established below the new 001 outfall location on Sherman Creek once that discharge commences.

Continuous flow monitoring at these stations will allow the reviewers to determine the flow conditions in each of these drainages at the time when the sampling event took place.

5.6.4 Calibration and Use of Field Instruments

Dissolved Oxygen and Temperature. A dissolved oxygen (DO) meter is used to obtain field DO measurements. The DO meter will be calibrated in accordance with the manufacturer's instructions, before every field-sampling day.

The DO calibration relies upon barometric pressure. A handheld barometer is used at each station to obtain current barometric pressure, which is used to adjust the meter for each site. The DO meter requires an equilibration period of at least 10 minutes prior to calibration after movement. The first calibration of the day requires an equilibration period of 30 minutes with the DO meter on. Care must be taken during calibration and during measurements not to handle this instrument aggressively. The actual DO measurement requires an equilibration period of at least three minutes in the water sampled, while the ATC probe reaches its equilibration temperature.

DO and temperature are read from the DO probe. The temperature value is checked yearly against a certified thermometer.

pH. A handheld pH Meter is used for pH measurements. A second meter is present in the lab as a backup. Both meters have ATC probes that adjust the measured pH value to a standard 25° C temperature. Laboratory pH will also be measured for each sample.

The pH probe is checked prior to use with pH buffers 7 and 10, and these standard readings are recorded on the calibration log. If the pH buffers read more than the absolute value of 0.1 pH units from the known pH value, the pH meter is recalibrated and the buffers are rechecked prior to use. If the pH buffers read less than 0.1 units from the known value, the sample pH can be read. Time must be allowed for the pH meter's ATC probe to equilibrate before recording reading.

Calibration logs are kept with the pH meter.

Conductivity. Conductivity measurements are made using a handheld conductivity meter. An ATC probe is used to compensate for temperature differences. The meter/probe is checked against a known and traceable standard. If the meter reads ± 5 % of the known value, sample measurements are made after equilibration occurs in each sample. If the value of the standard

read is greater than or less than 5 % of the known value, the meter is recalibrated and rechecked prior to sample measurement.

A final check is performed after sample analysis, with a ± 5 % acceptance criterion.

Turbidity. A portable turbidimeter is used for turbidity measurements. Prior to sample measurement, the turbidimeter is checked against Gelex standards that have been calibrated within the previous three months against formazin standards. If the Gelex standards read within ± 5 % of their calibrated values, the samples are read. If the Gelex standards are outside this range, the Gelex cells are cleaned and reread; if they are still out, the turbidimeter and Gelex standards are recalibrated prior to sample measurement.

Sample cells are carefully cleaned with Kimwipes prior to measurement. Care is taken with cool or cold samples to wipe condensation buildup from the outside of the sample cell.

After measuring samples, a final check is performed with an acceptance criteria of ± 5 %.

Turbidimeters are calibrated against formazin standards whenever the Gelex standards are out of their ± 5 % range, or every three months at a minimum.

5.6.5 Calibration Standards Documentation Procedure

All field instruments and equipment will be calibrated according to manufacturer's instructions prior to each monitoring event. All standards used are prepared standards purchased from a scientific equipment supplier (e.g., Fisher, VWR, Hach) and are traceable to known reference standards.

When standards are received at the on-site lab, they are inspected for leakage or other problems. If acceptable, they are logged in the Standards Log (see Attachment 1). If an expiration date is not given on the standard, an expiration date of one year from the date received is written on the bottle in indelible ink. The word "Received," the date received, and the receiver's initials are also written on the bottle in indelible ink.

Each time a standard is used for calibration purposes, the expiration date is checked. New standards are ordered when the expiration date is one month or less in the future. Expired standards are never used for calibration or calibration check purposes.

5.7 Sample Preservation

Samples are collected in new, pre-cleaned and tested bottles. Samples are collected directly into sample bottles without sampling equipment so equipment decontamination is not necessary. Filters for dissolved samples are disposable and only used once.

Samples are chilled with blue ice or in the refrigerator as soon as they arrive from the field. They are removed from chilling for the following filtration and preservative activities prior to shipping to the laboratory:

Dissolved metals samples are filtered on the day of sample collection using Nalgene disposable 0.45 micrometer filter units. The Nalgene filters are pre-rinsed with 150-ml portions of laboratory deionized water. The filtrate is poured into an unused new 500 ml red label HDPE sample bottle and the collection bottle is immediately disposed of. The filters used are certified free of heavy metals in compliance with the Superfund Amendment Reauthorization Act (SARA), and have been blank-tested by the project laboratory, Analytica.

Dissolved samples are preserved with 1:1 HNO_3 – 1 ml per 500 ml **red label** sample, after filtration.

In the event that water samples are kept overnight at the mine site, the pH of the samples for metals analysis will be checked using pH paper on each preserved sample type. The pH checks are performed the day following sample preservation by shaking the preserved sample thoroughly, pouring a small aliquot of sample into a beaker cup, and dipping the pH paper into the aliquot. These small aliquots are then disposed of through the onsite wastewater treatment system. The pH check is documented in the comments section of the field data sheet. Additionally, the pH of all samples is checked upon arrival at the laboratory, with deviations from pH <2 noted on the chain of custody form. If acid-preserved samples are found to exceed pH 2 at the laboratory, the laboratory informs Coeur's Environmental Coordinator.

Samples for the low level analysis of **mercury** using Method 1631 are collected in a 500 ml **Teflon** sample bottle, and are not filtered or preserved in the field. These samples will be filtered and preserved at the contract laboratory facility using BrCl. The 1631 samples must be shipped to the contract laboratory located in Seattle, Washington, filtered and preserved within 48 hours. Sample collection should be scheduled to allow receipt of the sampled on a working day in order to prevent exceedance of the 48 hour holding time. EPA 1631 allows mercury samples to be shipped at ambient temperature, therefore use of ice as described in Attachment 3 is not required.

Samples for **ammonia** analysis are collected in separate 250 ml **yellow label** HDPE bottles. H_2SO_4 preservative has been added to the empty bottles before shipment by the laboratory. Upon preservation, all samples are kept at 4 ± 2 degrees C.

Samples for the analysis of **all other parameters** (general parameters) are collected in **white label** sample bottles and are kept at 4 ± 2 degrees C. Water samples are collected using only the bottles listed in Table 3. Preservation and holding time requirements are found for all water sample parameters in Table 3.

Table 3 – Water Sample Containers, Preservation and Holding Times			
Parameter	**Sample Container**	**Preservation**	**Holding Time**
Physical and General Parameters			
Ammonia, Total	250 ml HDPE yellow	H_2SO_4 pH<2	28 days
Chloride	1 liter HDPE, white label	4 degrees C	28 days
Color			NA
Conductivity			28 days
Hardness			6 months
Lab pH			48 hours
Nitrate - Nitrogen			48 hours
Sulfate			28 days
Total Dissolved Solids			7 days
Total Suspended Solids			7 days
Metals (Dissolved) [1]			
Aluminum	500 ml HDPE red label	HNO_3 pH<2	6 months
Arsenic			
Cadmium			
Chromium			
Copper			
Iron			
Lead			
Manganese			
Nickel			
Selenium			
Silver			
Zinc			
Mercury, (245.1)			28 days
Mercury, (1631) [2]	500 ml Teflon	BrCl in lab	28 days

[1] Dissolved Fraction: filter with newly certified 0.45 micron filter prior to preservation

[2] Samples obtained for 1631 analysis have a 48 hour holding time until preserved.

5.8 Sample Packaging and Shipping

Samples will be delivered under chain of custody to Analytica Alaska in Juneau as soon as possible after leaving Kensington Camp. During each sampling event documentation consisting of a chain of custody form will be completed and copies included with the samples during shipment to the analytical laboratory. An example of the chain of custody form used by Coeur is presented in Attachment 1. Additional information regarding chain of custody forms is included below in Section 7.2.4.

Sufficient blue ice will be added to the sample shipment coolers to maintain a sample temperature of 4 ± 2 degrees C. It is the experience of Analytica Alaska that blue ice is adequate for maintaining sample temperature for shipment from the site to Juneau. Use of crushed ice as suggested in Attachment 3 is not required. Should maintaining temperature become a problem Coeur will take action to correct the problem.

6.0 LABORATORY ANALYSES

6.1 Contract Laboratory

Laboratory analyses of water samples will be conducted by Analytica Alaska. Located in Juneau, Analytica Alaska is a full service environmental testing laboratory specializing in inorganic chemistry in support of drinking water, wastewater and NPDES compliance. Analytica follows their own specific quality control procedures that are described in their Quality Assurance Manual (Attachment 2). Analytica Alaska will subcontract with Brooks Rand in Seattle, Washington to conduct EPA 1631 analysis.

Should Coeur change contract laboratories, the USFS and state will be advised and provided updated laboratory QA manuals, certifications and contract statement of work. The contract laboratory statement of work is contained in Attachment 4.

6.2 Parameters and Methods

Table 4 lists the parameters to be analyzed in each water sample collected in accordance with this FWMP. Table 4 also summarizes analytical methods, minimum reporting limits, and laboratory precision and accuracy requirements.

Table 4 - Laboratory Analysis Requirements				
Lab Parameter	**Method**	**Minimum Reporting Limit** (ug/L unless noted)	**Precision** (RPD)	**Accuracy** (% Recovery)
Physical and General				
Ammonia, Total	EPA 350.3	0.1 mg/L	± 20%	85 – 115%
Chloride	EPA 300.0	1.0 mg/L	± 20%	85 – 115%
Color	EPA 110.2	5 color units	N/A	N/A
Hardness	EPA 130.2	10 mg/L	± 20%	85 – 115%
Lab pH	EPA 150.1	0.1 s.u.	± 20%	N/A
Nitrate-Nitrogen	EPA 300.0	0.05 mg/L	± 20%	85 – 115%
Sulfate	EPA 300.0	0.1 mg/L	± 20%	85 – 115%
Total Dissolved Solids	EPA 160.1	20 mg/L	± 20%	85 – 115%
Total Suspended Solids	EPA 160.2	4 mg/L	± 20%	85 – 115%
Dissolved Metals				
Aluminum	EPA 200.8	10	± 20%	85 – 115%
Arsenic	EPA 200.8	2.5	± 20%	85 – 115%
Cadmium	EPA 200.8	0.1	± 20%	85 – 115%
Chromium, Total	EPA 200.8	2.5	± 20%	85 – 115%
Copper	EPA 200.8	1.0	± 20%	85 – 115%
Iron	EPA 200.7	50	± 20%	85 – 115%
Lead	EPA 200.8	0.16	± 20%	85 – 115%
Manganese	EPA 200.8	1.0	± 20%	85 – 115%
Nickel	EPA 200.8	1.0	± 20%	85 – 115%
Selenium	EPA 200.8	1.0	± 20%	85 – 115%
Silver	EPA 200.8	0.1	± 20%	85 – 115%
Zinc	EPA 200.8	2.5	± 20%	85 – 115%
Mercury	EPA 245.1	0.2	± 20%	85 – 115%
Mercury	EPA 1631	0.005	± 20%	85 – 115%

Note: EPA Method 1631 to be used each year during the June sampling event.

6.3 Parameter-Specific Holding Times

Sample holding times for each parameter are presented above in Section 5.7, Table 3.

6.4 Laboratory Deliverables

The laboratory will document results of the analyses. A list of data deliverables, which the laboratory is to provide as part of the analytical report for the samples, includes the following:

Report Transmittal Letter:

- A statement confirming the receipt of all samples listed on the inventory sheet, that the shipment was received with custody seals intact, and the date the shipment was received.
- A table listing the client and corresponding lab sample numbers.
- A report of any exceptions indicating any problems including quality control exceedences, holding time exceedences, or any observations affecting sample integrity.
- Provide a detailed description of each case.
- Provide a listing of data attachments to the report (number of pages).
- Provide a statement of authenticity, certification of the data with the date, and signature of the lab manager or designate.
- Transmittal letter shall be prepared on laboratory letterhead.

Analytical Information:

- All metal data are to be labeled as dissolved metals, and the units of measure should be clearly indicated.
- Each set of samples should include a list of the method detection limits for each constituent.
- A report documenting results for matrix spike samples indicating Percent Recovery (%R) and for laboratory duplicate samples indicating Relative Percent Difference (RPD).
- Results for method blank analysis.
- Results for field quality control samples, trip blanks and field duplicate samples.

In addition to the printed report, the laboratory shall provide an electronic copy of the qualified analytical results in spreadsheet format, compatible with Coeur's database requirements. Coeur will provide the desired format.

7.0 QUALITY ASSURANCE PLAN

Field and laboratory quality assurance planning is documented in detail in the Quality Assurance Project Plan prepared by Coeur Alaska for compliance with the NPDES permit, and the contract laboratory Quality Assurance Manual prepared by Analytica Alaska (see Attachment 2). This section of the FWMP summarizes many of the key elements of these quality assurance plans as they relate to receiving water monitoring at the Kensington Gold Project.

7.1 Data Quality Objectives

Data Quality Objectives (DQOs) include both quantitative and qualitative objectives that define usable data for meeting the requirements of this program. DQOs define the quality of services provided by the laboratory and are used in the quality assurance review of the field and laboratory data. Review of the quality control (QC) data against the DQOs determines if the data are fully usable, considered estimates, or rejected as unusable.

7.1.1 Quantitative DQOs

The quantitative DQOs for the FWMP include reporting limits, precision, accuracy, and completeness.

Reporting Limits. Reporting limits are determined by laboratory-provided or method-specified minimum levels, or by quantitation levels specified by the NPDES permit.

Precision. Precision is the ability to replicate the measurement. It is expressed as Relative Percent Difference (RPD). RPD is normally determined for field duplicates, laboratory duplicates, and matrix spike duplicates. The acceptance criterion for RPD is normally ±20 percent when the constituent concentration is more than five times the detection limit.

Accuracy. Accuracy is the closeness of the measurement to the true level of the variable. Accuracy is expressed as percent recovery (%R). Acceptance criteria for %R are 85 to 115 percent. %R is normally determined by the use of known traceable laboratory control standards in the preparation and analysis of laboratory matrix spike samples.

Completeness. Completeness is a measure of how many planned measurements for each constituent actually result in valid data. It is expressed as a percentage of the total number of samples collected under correct, normal conditions. The completeness criterion for analyses conducted under the FWMP is 90 percent due to the extreme conditions observed at the Kensington site.

7.1.2 Qualitative DQOs

The qualitative DQOs are representativeness and comparability.

Representativeness. Representativeness is a measure of how well the sample represents the environmental condition. Representativeness is addressed in this plan by selection of sample sites, sample collection methods, and sample handling.

Comparability. Comparability is a measure of how well data from different sources can be compared to each other. It is addressed in the plan by ensuring that appropriate reporting limits are used and the data are of known and acceptable quality, obtained through the use of specified QC measures and QA data review. Measures affecting sample comparability such as analytical methods used and preparation methods are described within the laboratories' Quality Assurance Plan.

7.2 Field Quality Assurance

7.2.1 Sampling Personnel Training

Personnel collecting field data and water quality samples will be Coeur staff or selected independent contractor/consultants. In either case, the personnel must have the following training:

- How to find and safely approach the sampling sites, including seasonal hazards such as ice and bears.
- How to calibrate and operate field instruments, take specified field measurements, and follow proper sampling protocols.
- How to collect samples using FWMP sampling protocols, including samples for the analysis of mercury using EPA Method 1631.
- How to fill out field data sheets and review for completeness and possible errors.

7.2.2 Maintenance and Calibration of Field Instruments

Procedures for maintaining and calibrating field instruments used to measure temperature, dissolved oxygen, pH, conductivity, and turbidity are discussed above in Section 5.6.4. The quality objectives for the field parameters used for FWMP monitoring require that all measurements are made with calibrated field instruments. Instruments are calibrated or calibrations are checked against known standards at scheduled times. Records of all such calibrations and checks are maintained. If instruments are not within their calibrations upon checking, the instruments are recalibrated and rechecked, and maintenance of instruments is performed when necessary.

If field data has been collected with an instrument that fails a calibration check, the data during the time period covered by the failed calibration check will be assigned a data qualifier

indicating a possible bias. If field analysis can be repeated, as in weekly analyses, the samples will be re-analyzed after the instrument is re-calibrated.

7.2.3 Collection of Field Quality Control Samples

Field quality control samples will consist of field duplicate, trip blank, and field blank (for low level mercury analysis only) samples. The procedures and rationale for collecting and submitting field quality control samples are described above in Section 5.5.

7.2.4 Chain of Custody Forms

During each sampling event documentation consisting of a chain of custody form will be completed and copies included with the samples during shipment to the analytical laboratory. An example of the chain of custody form used by Coeur is presented in Attachment 1. Chain of custody forms are used to document the possession history of the samples from the time collected in the field, throughout shipment, and during receipt by the analytical laboratory. Chain of custody procedures are used to ensure the integrity of the samples and to eliminate potential for sample tampering.

Sample custody while at the mine site will be maintained by:

1. Keeping the samples in sight or on the person of the sampler; for example, in the sample backpack while sampling,

2. Keeping the samples in the on-site lab refrigerator under the supervision of the sampler while preparing the samples, or

3. Sealing the samples in a cooler with blue ice, sealed with signed and dated custody seals.

During shipment to the laboratories, custody will be maintained by sealing the samples and chain of custody form inside a cooler with signed and dated custody seals. Once samples have arrived at the laboratories, they will be considered under custody within the laboratory environment. Chain of custody records will comprise part of the full laboratory analytical report for the sample analysis.

Upon receipt of the cooler at the laboratories, the sample custodian has the responsibility to note the conditions of the custody seals. If they are broken before receipt, note will be made by the sample custodian on the chain of custody form and that form will become part of the sample's permanent record.

7.2.5 Field Data Documentation

Field data is collected in a bound field notebook with numbered pages. Portions of the field data are transcribed onto field data sheets in the Camp Lab. Field data sheets are designed to minimize errors in recording, to verify instrument calibration, to document the time samples were collected, and to note any unusual conditions or deviation from stand procedures.

Included in the field notebook are:

- Sample date, time and exact place of monitoring,
- weather observations,
- field measurements such as dissolved oxygen pH, conductivity, turbidity, and temperature,
- stream gauge readings,
- sampling personnel,
- samples collected, and
- unusual conditions.

The field data sheet for receiving water stations is included in Attachment 1. Either notebook logs or individual form logs will accompany field-monitoring equipment. These records are maintained in the environmental filing system. Samples are described on chain of custody forms, which accompany the samples to the laboratories (see, Attachment 1). Copies of the completed chain of custody records are maintained in the environmental filing system.

7.3 Laboratory Quality Assurance

7.3.1 Laboratory Quality Assurance Plan

The analytical laboratory, Analytica Alaska conducts analytical testing according to well-documented standard operating procedures. Laboratory operations are regulated by a written, comprehensive quality assurance plan that is based on controlling, monitoring and documenting every aspect of operation. This document is updated to maintain current industry standards. A copy of the most recent revision to Analytica Alaska quality assurance manual is included herein as Attachment 2.

7.3.2 Laboratory Quality Control Samples

The following laboratory quality control samples will be prepared and evaluated in accordance with the analytical laboratories quality assurance plan. Detailed information about laboratory preparation of quality control samples, laboratory methods used, and laboratory sample handling can be found by referencing the laboratory's quality assurance plan (Attachment 2).

7.3.2.1 Laboratory Duplicates

Laboratory duplicate samples to evaluate analytical precision will be prepared and analyzed at a frequency of 1 in 20 (i.e., one duplicate will be prepared for every 20 field samples submitted for

analysis). In the event less than 20 field samples are submitted to the laboratory, at least one lab duplicate will be prepared per sampling event.

7.3.2.2 Matrix Spikes

Laboratory matrix spikes to evaluate analytical accuracy will be prepared and analyzed at a frequency of 1 in 20 (i.e., one matrix spike will be prepared for every 20 field samples submitted for analysis). In the event less than 20 field samples are submitted to the laboratory, at least one matrix spike will be prepared per sampling event. In addition, the contract laboratory will prepare and analyze matrix spike duplicates to evaluate the precision of the matrix spike procedure.

7.3.2.3 Laboratory Control Standards

Calibration standards are analyzed and calibration curves developed for all applicable methods. The initial calibration is continuously monitored by analyzing a continuing calibration standard every 10 to 20 samples, or within a specified time frequency, and at the end of each new set of samples, depending on the method and instrumentation. Results must be within an established range as described by the method SOP.

7.3.2.4 Method Blanks and Instrument Blanks

When not defined in the method and as appropriate, method blanks and instrument blanks are analyzed one in every 20 samples at a minimum. Method blanks are used to verify that contamination from laboratory reagents and glassware is not present. The method blank must be less than the reporting limit, or 10 times less than the amount in the sample, for the analytical parameter being tested.

7.4 Quality Assurance Review

Reduction of laboratory measurements and laboratory reporting of analytical parameters will be in accordance with the procedures specified for each analytical method (e.g., perform laboratory calculations in accordance with the method specific procedure). Analytical parameters will be reported in units generally accepted within the industry.

Data review and validation entails an examination of the field and laboratory quality control data and the raw data to verify that the laboratory was operating within required control limits, the analytical results are correctly transcribed from the instrument read outs, and which, if any, natural samples are related to any out-of-control quality control samples. The objective of the data review and validation is to identify any unreliable or invalid laboratory measurements.

Upon receipt of data from the laboratory, each data package will be reviewed for:

- Sample holding times
- Instrumentation calibration
- Review of calibration and preparation blanks
- Interference checks
- Laboratory quality control samples
- Specific sample results

- Field and other quality control sample results.

Requests for reanalysis can be made at this point. Measurement data will then be reduced and validated using the following:

Precision

- Determining if field duplicates have a relative percent difference (RPD) of less than 20%.

- Reviewing laboratory quality control results to ensure that all laboratory duplicates are within acceptable control limits.

Accuracy

- Reviewing laboratory quality control results to ensure that all laboratory spikes and calibration control standards are within acceptable control limits.

Representativeness

- Comparison of actual sampling procedures to those delineated in the Sampling Methods section and other criteria necessary to ensure representativeness.

- Invalidating non-representative data or identifying data to be classified as questionable; only representative data will be used in subsequent data reduction and validation activities. Data determined to be non-representative would include data resulting from samples collected that did not follow sampling procedures.

Comparability

- Identifying pertinent data characteristics that may limit comparability to other data sets.

Completeness

- Computing the fraction of measurement data that remained valid after discarding any invalid data due to physical, accuracy, or precision reasons (to be computed as a percentage of total planned and total collected samples).

8.0 DATA MANAGEMENT AND REPORTING

This section documents hard copy and electronic information storage, access, and archive schedules. All incoming hard copy, such as laboratory reports, will be date stamped with the date received by Coeur.

8.1 Data Management

8.1.1 Field Records

Field data sheets are written in ballpoint ink. The signature of the field analyst accompanies field data and calibration records. When errors are made in writing results, the error is crossed out with a single line and initialed.

Field data sheets are maintained at the treatment plant and at the field camp lab. The Environmental Coordinator is the only person who will remove these records or who will direct their removal. They will be transported to Juneau with the Environmental Coordinator or designee where they will be entered into the database and archived in the filing system.

Original field data sheets, laboratory reports, copies of DMRs, reports of exception, and associated quality assurance review reports are filed in Coeur's environmental file system in Juneau for future reference. Five years of data will be made readily available for review in Coeur's filing system. Reports are stored chronologically.

Originals are photocopied as needed, and the copies are used for distribution and for satisfying requests for information.

These records may be archived 5 years after the date of creation and moved to a less accessible location. If so, the current five years of hard copies are kept readily accessible.

Hardcopy reports or packets that are not already sequentially numbered are numbered before disassembly for copying. This ensures that packets can be reassembled in correct order and that copies can be easily verified as to completeness.

8.1.2 Laboratory Reports

Upon completion of laboratory analysis and laboratory data review, the analytical laboratory issues a full laboratory report describing the results of analysis for each sample submitted. Prior to issuance of the analytical report to Coeur, the laboratory’s QA manager will review and approve the report.

Components of the analytical report include:

- Sample information: site name, date and time collected, client name, client project.
- Parameter name and method reference.
- Analytical result.
- Reporting limit.
- Date of sample preparation and date of analysis.

- Analyst's initials.

- Quality control information: blank results, spiked blank or laboratory control standard recovery, matrix spike/spike duplicate recoveries, relative percent differences between duplicate spike analyses.

- Documentation of deviations from methods, procedural problems with sample analysis, holding time exceedances, and any additional information that is necessary for describing the sample.

- Chain of custody.

- Transmittal letter shall be prepared on laboratory letterhead.

8.1.3 Electronic Data Management

Coeur will maintain a relational database containing all the data. Copies of the database or partial copies may be distributed to others, as needed, to facilitate data analysis. Copies of all data required by the agencies shall be delivered in electronic format as well as paper copy format as required.

The relational database containing all data is maintained in Coeur's environmental files. Copies of the database or partial copies may be distributed to others as needed to facilitate data analysis.

Complete backup of the database is performed at least monthly, preferably after the most recent data entered has been verified. This backup is stored in a safety deposit box. A log of backups will be kept to aid in recovery from hardware or software failure.

Change of the database structure or utilities may be needed. A log of database changes, enhancements, problems and fixes will be kept to aid in troubleshooting. The log will be stored with the backup media in a separate building.

Coeur's staff will maintain data security by use of a password. The password is changed as needed.

Electronic copies of word processing documents such as reports are kept for a minimum of 6 months on a hard disk or on a diskette stored on-site.

All field and laboratory generated water quality and flow data will be compiled into a STORET compatible format in accordance with ADEC's electronic data deliverable format. The STORET compatible database will be submitted to ADEC on an annual basis with the delivery of the annual Freshwater Monitoring Report (see Section 8.2.2 below).

8.2 Reports

Permanent records are made and retained for all stages of the information collection process. These records allow tracking of data from the moment of sample collection through analysis, and allow tracking of problems; they are essential for the defensibility of the data generated for this project.

8.2.1 Monthly Reports

Each month Coeur will send monitoring results on Discharge Monitoring Report Forms (DMRs, EPA No. 3320-1). The results from analytical testing for each month will be postmarked by the 10th day of the following month. The DMRs will be prepared in accordance with the EPA's reporting requirements, Permit No. AK-005057-1. The original copy of the DMR's will be submitted to the Director, Office of Water and copies will be submitted to the USFS, the ADEC and the ADNR. The monthly reports submitted to the ADNR will also include summaries regarding streamflow measurements and elevation of the TSF reservoir. Mailing addresses for each recipient of the monthly report are as follows:

USEPA Region 10 1200 Sixth Avenue, OW-133 Seattle, Washington 98101	**USFS** Juneau Ranger District 8465 Old Dairy Road Juneau, Alaska 99801
ADEC Division of Water 410 Willoughby, Suite 303 Juneau, Alaska 99801	**ADNR** Water Resources 550 West 7th Street, Suite 900D Juneau, Alaska 99801

Monthly reports to the USFS shall include the following:

1. A cover letter including the following:
    - Statement of completeness. Where all sites sampled and if not an explanation of why not.
    - Identify any data anomalies.
    - Identify any AWQS exceedance and provide additional information to identify possible cause of exceedance.
    - Identify any unanticipated changes in sampling or analytical process and provide an explanation for the change.
    - Discuss any QC problems.
2. A copy of the laboratory report and data.
3. An electronic copy of lab data with qualifiers.

8.2.2 Annual Reports

Annual reports will be completed after all data for the year has been received and quality assurance reviews are completed for each water year (October 1 to September 30). The annual

report will be submitted by March 1 of the following year. The annual report will address the monitoring goals outlined in Section 2 of the FWMP. The report will provide an overview of the monitoring activities completed during the year and will discuss the adequacy of the FWMP in fulfilling the plans objectives. The annual report will address the following:

1. Describe the ambient water quality and flow at the site.

2. Describe the effectiveness of the monitoring plan in collecting sufficient data of acceptable quality to determine compliance with water quality criteria. Discuss the scope and effectiveness of QC/QA program and potential modification to the program included in the FWMP.

3. Provide analysis of field and analytical data to characterize water quality at sites above and below nonpoint source activities and describe any trends or indications of impact from nonpoint sources to surface water quality, including any exceedance of water quality standards.

4. Describe potential causes for data trends or impacts to water quality and flow relative to activities being completed at the mine, discuss the effectiveness of BMPs used, and identify/propose modification to BMPs or the FMMP where appropriate. Identify or list any project plans or actions implemented to address water quality standard exceedance.

5. List of personnel involved.

The annual report will be submitted to the EPA, USFS, ADEC and ADNR in the same manner as the monthly reports described above. In addition, the ADEC will receive a copy of all field and laboratory data in a STORET compatible electronic format.

Coeur will coordinate an annual meting with the regulatory agencies to review and evaluate results. Based on results the monitoring plan will be adjusted as appropriate for approval by the state and USFS. The company will also coordinate an annual public meeting to review monitoring results.

8.3 Adaptive Management

The evaluation of water quality monitoring result trends will be ongoing, and reported, monthly and annually, to identify if there are any natural, or operational activities at the minesite, responsible for changes in water quality.

Coeur will also communicate changes or unanticipated problems and resulting actions. These “exceptions” are considered short-term or temporary conditions such as taking additional samples for a short period to verify an unusual event. Events that are unanticipated and

unscheduled but do not appear to cause or have the potential to cause significant resource damage are not time critical. The may be reported along with the next scheduled report.

Emergency events are when actual or potential significant resource damage could occur. A report for an emergency such as a chemical spill affecting fresh water is distributed as soon as possible.

Should Coeur suspect that an AWQS has been exceeded at a FWMP sampling site Coeur will first determine if an actual exceedence has occurred by retesting. If Coeur determines an exceedence occurred, they will identify and explain the cause of the exceedence in a written notice to the USFS and State within 30 days of identifying the exceedence. The notice will also include a plan to mitigate the cause of the exceedence .If Coeur believes the exceedence is caused by natural factors the notice will address that fact by referencing upgradient sites and/or other means of verification. The USFS and State will respond to Coeur regarding content of this notice within 14 days of receipt. The agencies response will consist of either approval of the plan, or recommendations for changes to the plan that will help alleviate potential impacts to the designated uses of the receiving waters.

9.0 PERSONNEL RESPONSIBILITIES

The following positions are responsible for the activities outlined in the FWMP:

Environmental Manager, Coeur Alaska, Inc.
Coeur Alaska's Environmental Manager is responsible for ensuring the activities in this FWMP are followed. The Environmental Manager provides resources including personnel and supplies for sampling, quality control, laboratories, data management, and auditing. The Environmental Manager directly supervises the Environmental Coordinator and makes available assistance and resources as needed.

Environmental Coordinator, Coeur Alaska, Inc.
Coeur's Environmental Coordinator is responsible for following the activities outlined in this FWMP. Responsibilities include:

- Supervising or performing the sampling, sample handling, laboratories, quality control processes, and data management processes involved in the project. This includes participating in all phases of the project except laboratory analysis on an occasional basis.
- Following FWMP provisions in the field and in data management.
- Ensuring that all personnel have appropriate training and skills.
- Coordinating with project laboratories.
- Reporting results of analysis to the EPA via the NPDES Discharge Monitoring Report (DMR) process.

- Coordinating future changes to the FWMP and dissemination of FWMP revisions to the environmental personnel.

- Keeping current with all agency or regulatory water quality changes or requirements.

Quality Assurance Officer, Coeur Alaska, Inc.
The Quality Assurance (QA) Officer is responsible for approving the FWMP, for making certain that the FWMP is implemented as designed and is followed, and for ensuring that the data collection process is conducted correctly.

The QA Officer is independent of the environmental coordinator. The officer maintains a copy of the FWMP and periodically reviews the FWMP and compares FWMP criteria with actual field sampling and measurement, with lab activities, and with data management.

Field Staff – Coeur Alaska, Inc.
Field measurements and sample collection will be conducted by members of the Kensington Gold Project, field staff. Field staff report directly to the Environmental Coordinator, who is responsible for overseeing the collection of daily samples.

Contract Laboratory – Analytica Alaska.
Analytica Alaska will analyze monthly samples for the chemical parameters described within this FWMP. Analytica follows their own specific QA/QC procedures that are described in their Quality Assurance Manual (see Attachment 2).

Low level analysis for mercury EPA 1631 will be completed by Brooks Rand in Seattle Washington who will be subcontracted through Analytica Alaska. Brooks Rand specializes in trace metals analysis and instrumentation. QA/QC procedures for Brooks Rand are also included in Attachment 2.

ATTACHMENT 1

Standard Forms

Conductivity Calibration Log

Date	Time	Calibrator's Name	Known Value	Found Value	Difference from known > 5%? If yes, recalibrate	Recalibrated?		Reading After Recalibration/ Final Check Reading
						No	Yes	

Coeur Alaska, Inc.
3031 Clinton Dr., Suite 202
Juneau, Alaska 99801
(907) 789-1591

Monthly Chain of Custody/Transmittal Record

PAGE _1__ OF __1__

CUSTODY SEAL? YES	PROJECT NAME: Kensington				ANALYSIS REQUIRED					LAB USE ONLY	
	SAMPLER(S):		Phone#: 789-1591							GROUP #_____	
			FAX#: 789-1503								
TIME	DATE	SITE DESCRIPTION /IDENTIFIER	MATRIX	NUMBER OF CONTAINERS	TR Metals	Ammonia	General	Mercury 1631		LAB #	COMMENTS
			Water								
			Water								
			Water								
			Water								
			Water								
			Water								

COMMENTS

DELIVERABLES
___ Level I
___ ADEC Format
___ Other _____

TURNAROUND TIME
___ 5 Business Days
___ 10 - 15 Business Days
___ Other _____

RELINQUISHED BY: (signature)	DATE	TIME	RECEIVED BY: (signature)	DATE	TIME	CUSTODY SEAL INTACT? YES NO	*Condition of Sample Containers*
RELINQUISHED BY: (signature)			RECEIVED BY: (signature)			CUSTODY SEAL INTACT? YES NO	*Temp Received: _____C*
RELINQUISHED BY: (signature)			RECEIVED BY: (signature)			CUSTODY SEAL INTACT? YES NO	*# of Coolers: ____1_____*

Field Data Sheet - Receiving Water

INSTRUMENTS:
Temp/DO - Hach Sension6 (temp and DO same instrument)
pH - Corning 313
Turbidity - Hach 2100 P
Conductivity - Orion Model 105 or 115

	INITIALS	PRINTED NAME	SIGNATURE
	_____	_____	_____
	_____	_____	_____

SAMPLING SITES				
DATE				
TIME				

FIELD MEASUREMENTS/units	**Measured By**	**Result**	**Result**	**Result**
Stream Gauge Level/feet				
Temperature/celsius				
Dissolved Oxygen//mg/l				
pH/su				
Conductivity/umho				
Turbidity/ntu				

CALIBRATION/standards	**Calibrated By**
pH/buffer 7 & 10	
Dissolved Oxygen/auto calibration	
Turbidity/secondary gelex	
Conductivity/calibration standard	

PRESERVATION/acid		**Preserved By**	**Preserved By**	**Preserved By**
Gross/none				
Nutrients/H2SO4 pH<2		Lab pre-preserved:_____(initial)	Lab pre-preserved:_____(initial)	Lab pre-preserved:_____(initial)
Metals Dissolved/HNO3 pH<2				
Ammonia H2SO4 pH<2				

NUMBER OF CONTAINERS				
DATE & LAB SENT TO:				

Filters pre-rinsed with laboratory deionized water:_____(initial)

COMMENTS:

Standards Log

Standard	Manufacturer	Catalog Number	Lot Number	Date Received	Expiration Date

Summary: DATA VALID? Yes No

Analytical Laboratory Data Validation Check Sheet

Lab Name: Analytica Alaska

Work Order: _____

Report Date: _____

Precision			
Relative percent difference (RPD) within lab limits?	Yes	No	N/A
Calculated RPD of field duplicates < ± 20%?	Yes	No	N/A
Accuracy			
Lab matrix and control spikes within lab limits (85-115%)?	Yes	No	N/A
Representativeness			
Were correct sampling procedures used?	Yes	No	N/A
Comparability			
Were standard methods used (ie, collection, handling, sample prep, analysis, etc.)?	Yes	No	N/A
Completeness			
Fraction of measurement data that remained valid (# valid/total planned samples, > 90%):	_____		

Comments:

_____

_____

_____

_____

_____

_____

Reviewed by: _____

Date reviewed: _____

ATTACHMENT 2

Analytica Alaska Quality Assurance Manual

ATTACHMENT 3

Protocols for Collecting Samples for Analysis of Mercury
Using EPA Method 1631

ATTACHMENT 4

Contract Laboratory Statement of Work

(To be provided once Final NPDES Permit is received.)