APPENDIX 14-C

Fish and Aquatic Resources Baseline

Memorandum

To:	YESAB Reviewers
From:	Pat Tobler
Date:	March 31, 2017
Project No:	17Y0032
Re:	Coffee Gold Project - Fish and Aquatic Resources Baseline Report

The above mentioned baseline report that follows this memo was completed for Kaminak Gold Corporation by Palmer Environmental Consulting Group (PECG) based on their fieldwork around the mine site in 2014 and 2015. Minor edits to this report were completed by PECG in 2017; therefore, the report is dated February 20, 2017.

PALMER ENVIRONMENTAL CONSULTING GROUP INC.

Coffee Gold Project

Fish and Aquatic Resources Baseline Report

Prepared for

Kaminak Gold Corporation

February 20, 2017

PALMER ENVIRONMENTAL CONSULTING GROUP INC.

*470 Granville Street, Suite 630, Vancouver, BC V6C 1V5 **t** 604-629-9075*

February 20, 2017

Allison Rippin Armstrong
Kaminak Gold Corporation
1020 – 800 West Pender Street
Vancouver, British Columbia
V6C 2V6 Canada

Dear Ms. Armstrong,

Re: Fish and Aquatic Resources Baseline Report, Coffee Gold Project

Palmer Environmental Consulting Group Inc. is pleased to submit the attached report describing results of the fish and aquatic resources baseline assessment conducted as part of the Coffee Gold Project's baseline collection program carried out in 2014 and 2015.

This report characterizes the pre-development conditions of the fish and aquatic resources in the study area of the proposed Coffee Gold Project and provides a basis for an effects assessment from mine development.

If there are any questions or comments on this report, please contact Rick Palmer at (604) 629-9075.

Thank you for the opportunity to work with you on this project.

Yours truly,

Palmer Environmental Consulting Group Inc.

[signature redacted]

Rick Palmer, M.Sc. R.P. Bio
President, Senior Fisheries Biologist

Distribution List

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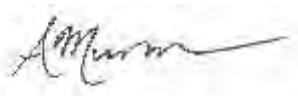
1	Yes	Kaminak Gold Corporation
1	Yes	Palmer Environmental Consulting Group

Revision Log

Revision #	Revised By	Date	Issue / Revision Description
1	Nicola Lower	December 11, 2015	Senior Review
2	Rick Palmer	December 11, 2015	Senior Review
3	Rick Palmer	December 14, 2015	Senior Review
4	Nicola Lower	March 7, 2016	Senior Review
5	May Mason	February 20, 2017	Correction to Table 13

Signatures

Report Prepared By:



Alyssa Murdoch, M.Sc., R.P. Bio.
Aquatic Ecologist

Report Reviewed By:

Nicola Lower, M.Sc., Ph.D.
Senior Fisheries Biologist

Report Reviewed By:

Rick Palmer, M.Sc., R.P. Bio.
President, Senior Fisheries Biologist

Executive Summary

This report describes the studies conducted in 2014 and 2015 on the aquatic environments of the Coffee Gold Project, which specifically includes fish and fish habitat, benthic invertebrate and periphyton communities, and sediment quality. The Coffee Gold Project is a proposed open-pit, heap leach gold mine located in the White Gold district of west-central Yukon, approximately 130 km south of Dawson City. The objective of the 2014-2015 aquatic environmental baseline surveys was to characterize the pre-development aquatic environment of the Project area in support of the project proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB).

The fish and aquatic resources baseline program included sampling at 18 fish community sampling sites, 17 fish habitat sites, and 12 benthic invertebrate, periphyton and sediment sites throughout the project study area. Sampling was conducted in August and October, 2014, and in March, June, July, and September, 2015. Fish habitat was characterized at each fish sampling site including the collection of *in situ* water quality parameters, and an assessment of habitat quality and quantity based on general habitat attributes (e.g., channel width, gradient, substrate composition, cover, stream morphology). A winter fish habitat survey was completed at select sites on Latte and Coffee Creeks in late March, 2015. Various site-specific fish sampling methods were conducted and included backpack electrofishing, minnow trapping, fyke net trapping, and angling. Salmon spawning surveys were conducted in summer 2014, fall 2014, and summer 2015 in Coffee Creek, Independence Creek, and in adjacent sections of the Yukon River. An Arctic grayling spawning survey was conducted in spring 2015 in Latte Creek. Fish samples were obtained from watersheds in the project area for analyzing fish age, diet, and tissue metal concentrations. Sediment sampling was completed for analyzing nutrients, pH, and metal concentrations at sites in the project study area.

Results showed that sediment samples exceeded the arsenic Canadian Council of Ministers of the Environment (CCME) Interim Sediment Quality Guidelines (ISQG) at every station, and also exceeded the arsenic Probable Effects Level (PEL) at AQ05, AQ13, and AQREF1. The ISQG was exceeded for Chromium in the Kona tributary of Independence Creek (AQ13), as well as at the Los Angeles Creek reference site (AQREF2).

Chlorophyll *a* was very low for all sites, which is typical of northern aquatic habitats. Ash-free dry mass (AFDM) values ranged from 0.38 - 1.07 mg/cm^2, with the highest values observed in Halfway Creek (AQ20) and Los Angeles Creek (AQREF2). Dipterans were the most dominant benthic invertebrate group in the project study area (50%), followed by mayflies (26%), and then stoneflies (21%).

Fish habitat quality was greatest in the mainstems of Coffee and Independence Creeks due to their large sizes, ample in-stream cover, and the presence of a wide variety of habitat types available including potential overwintering habitat. The winter fish habitat survey confirmed that there were localized areas for overwintering on Coffee Creek mainstem, however no overwintering habitat was observed in Latte Creek. Good Arctic grayling summer feeding habitat was available in the lower reaches of Latte Creek due to the frequency of substantial pool habitat. Habitat quality decreased in the upper watersheds (Latte

Creek, Kona Tributary, Halfway Creek, Independence Creek) due to steeper, cascade-pool or step-pool segments. In Halfway Creek, there was marginal fish habitat for Arctic grayling (*Thymallus arcticus*) available in the lower watershed (AQ20). YR24 was even smaller and steeper than Halfway Creek, with little to no pool habitat observed for fish rearing at the downstream site (e.g. water depths were generally less than 20cm). A high gradient barrier to fish passage was identified on upper YR24, just upstream of the aquatic site AQ31. The Isaac Creek reference site was smaller and shallower than both Independence and Coffee Creeks, with a mean channel width of 10m, and fewer deep pools (>1m) noted. The Los Angeles Creek reference site was established as an additional reference site in 2015 and was comparable to a range of habitats present in the mine study area.

Arctic grayling, slimy sculpin (*Cottus Cognatus*), and juvenile Chinook salmon (*Oncorhynchus tshawytscha*) were the most dominant fish species captured in the project study area. Juvenile Chinook salmon were present in the mainstems of Coffee Creek and Independence Creek, but were not captured in Latte Creek, Kona Tributary of Independence Creek, Halfway Creek, or YR24. In August 2014, juvenile Chinook salmon (jcs) capture rates were highest in the mainstem of Coffee Creek (5-12 jcs/trap/day), and low to moderate in Independence Creek (0.1-1 jcs/trap/day). Catch per unit effort was slightly lower at all sites in October, however, the presence of juvenile Chinook late in the season suggested that overwintering occurred at most sites in mainstem Coffee and Independence Creeks. At sites in Coffee Creek, capture rates of juvenile Chinook salmon were 8-15 times lower in July 2015 in comparison to August 2014, suggesting that juvenile rearing may exhibit high variability year to year. Capture rates of juvenile Chinook salmon were similar across both years for Independence Creek sites. Slimy sculpin overlapped juvenile Chinook salmon in distribution, but were also present at the downstream end of Latte Creek, and at the mouth of YR24. Arctic grayling were captured at all sites, with the exception of YR24, upper Halfway Creek, upper Latte Creek, and upper Kona Tributary, where no fish were caught. Site AQ04 on lower Latte Creek had the highest number of Arctic grayling captured (n=70). Two years in a row, sampling in lower Halfway Creek produced a single adult Arctic grayling. Low numbers of Arctic grayling were captured in the lower Kona Tributary site, AQ12. In 2014, a reference site was established near the mouth of Isaac Creek, which contained high numbers of juvenile Chinook salmon, slimy sculpin, and low numbers of juveniles from four other fish species. In 2015, low numbers of juvenile Chinook salmon, Arctic grayling, and slimy sculpin were captured at a second reference site located on Los Angeles Creek.

Slimy sculpin and Arctic grayling samples were collected for analyzing baseline metal concentrations in tissues. Mean estimated methylmercury concentrations exceeded the guideline for the protection of fish-eating wildlife in all watersheds. Individual slimy scupin samples in Latte and Coffee Creeks also exceeded the human health guideline for subsistence consumers. No fish samples at any sites exceeded the maximum allowable level of mercury for sale guideline. Mean selenium concentrations in slimy sculpin and Arctic grayling tissues exceeded the selenium guidelines for the protection of freshwater aquatic life in all watersheds. Individual slimy sculpin and Arctic grayling samples throughout the study area exceeded the selenium human health guideline for high consumers of fish. The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual fish samples.

Similar to results from previous years (Sparling 2001; Laberge and White Mountain 2002), no Chinook salmon were observed spawning in Coffee and Independence Creeks in 2014 or 2015. Results from the

Arctic grayling spawning assessment on Latte Creek suggested that grayling likely spawned elsewhere prior to entering the creek for summer feeding.

Table of Contents

List of Figures

List of Tables

List of Appendices

1 Introduction

1.1 Overview

This report describes the studies conducted in 2014 and 2015 by Palmer Environmental Consulting Group Inc. (PECG) on the aquatic environments of the Coffee Gold Project (the Project), which specifically includes sediment quality, periphyton, benthic invertebrate, fish habitat and fish community assessments. The purpose of these studies was to characterize the pre-development environment in support of the project proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB).

The Project is a proposed open-pit, heap leach gold mine located in the White Gold district of west-central Yukon, approximately 130 km south of Dawson City. The Project is wholly owned by the Kaminak Gold Corporation (KGC). The Project encloses several gold occurrences within an exploration concession covering an area of more than 600 square kilometres. The location of the Project is shown in Figure 1, as well as the fish and aquatic resources study area. All watercourses in the Project area eventually discharge into the Yukon River.

1.2 Study Objectives

The overall objectives of the Coffee Gold Fish and Aquatic Resources baseline study were to:

- Characterize fish and fish habitat in streams potentially affected by the Project to identify potential interactions and opportunities for mitigation, and to support an application to YESAB;
- Provide baseline data that will support future environmental effects monitoring programs; and
- To provide a basis for the assessment of any potential reduction of baseline fisheries productivity in order to support the future development of a Fisheries Mitigation and Offsetting Plan.

While some previous data has been collected in this region (see Appendix A: Review of Existing Fisheries and Aquatic Community Information, Coffee Gold Project, Yukon), the aim of the baseline program was to support a successful project submission to YESAB by establishing a thorough, repeatable, and multi-year baseline program. Several aquatic resources in the project area were studied in 2014-2015 including: periphyton, benthic invertebrates, fish and fish habitat, and sediment quality. These aquatic resources were chosen for study as they either directly or indirectly contribute to commercial, recreational or Aboriginal (CRA) fisheries, and/or they provide important indicators of aquatic ecosystem health that can be monitored over time. An overview of the importance of each program is briefly given below:

Sediment analysis is an important environmental monitoring component as sediments provide habitat for algae, plants, microorganisms, and invertebrates, which in turn support higher trophic communities such as fish. Sediment analysis may provide more insight into long-term contaminant levels in comparison to water quality testing, as contaminants are integrated into sediments over time, and are more likely to capture periodic or storm-based contamination events. Long-term accumulated contaminant levels may

be incorporated into the aquatic food web if sediments become re-suspended or are bioavailable. In 2014-2015, sediment samples were obtained and analyzed for nutrients, metals, and grain size.

Periphyton is the assemblage of algae, bacteria, fungi, microinvertebrates, bacteria, and detritus found attached to aquatic substrate such as rocks. The baseline program included the sampling of periphyton biomass, chlorophyll *a* concentrations, and community composition, which provides a mechanism for assessing water quality health and primary productivity in a watershed (BCMOE 2012).

The baseline program focused on determining benthic macroinvertebrate densities, species richness, biodiversity, and overall community composition, which provides insight into the aquatic health and resilience to disturbances. As benthic invertebrates are a common food source for fish, varying benthic invertebrate community health may have cascading trophic effects on fish communities. Benthic macroinvertebrates are also used as an indication of water quality due to varying species tolerance levels and the sentinel nature of the organisms. Biomonitoring of benthic invertebrates is therefore used as part of environmental effects monitoring to determine any potential effects, alongside water quality results and fish community surveys.

Fish contribute ecological, cultural, recreational and commercial value as they support fisheries, and constitute a fundamental role in aquatic ecosystem functioning. The Project study area is dominated by two CRA fish species: Chinook salmon and Arctic grayling. Yukon River Chinook salmon have historically supported valuable commercial, recreational and Aboriginal fisheries, however, the population has experienced significant declines and fishery closures in recent years (JTC 2013; Yukon Salmon Sub-Committee 2014). Arctic grayling is the most popular sport fish in the Yukon (Environment Yukon 2010), and may be targeted for fishing in accessible areas adjacent to the Yukon River. The protection of fish and fish habitat is built into the environmental legislation of the *Fisheries Act*, which aims to ensure that project activities do not impact fisheries productivity. Biomonitoring of fish species provides valuable information about the health of a watershed, as fish are long-lived and have specific habitat requirements that may be sensitive to environmental perturbations. In addition, fish are often positioned at the top of the aquatic food web, allowing them to integrate environmental variability experienced by species at the base of the food chain, and increasing the likelihood of detecting environmental impacts (BCMOE 2012). In the baseline program, sampling was undertaken to determine fish abundance, distribution, life history, and overall health via measurements of fish growth, population size, and metal concentrations of tissues. In addition, fish habitat characteristics were recorded, including physical parameters (e.g., channel size, stream substrate, habitat types) and *in situ* water quality parameters (e.g., temperature, pH, and dissolved oxygen).

Together, the study of sediment quality, periphyton, benthic invertebrates, and fish and fish habitat provides a thorough overview of the baseline conditions for aquatic resources in the project study area.

2 Methods

2.1 Study Area

The study area for the fish and aquatic resources survey of the Coffee Gold Project includes the four watersheds surrounding the project deposit: the mainstem of Coffee Creek to the east, Latte Creek to the south, the Independence Creek watershed to the west, including the Independence Creek Kona Tributary, and the Halfway Creek and YR24 Creek watersheds to the north (Figure 1). These watersheds have the potential to experience near-field project effects due to either overlap with the project footprint, or indirect effects resulting from activities in areas upstream. All of these watersheds eventually flow northward into the Yukon River.

The fish and aquatic resources study area also includes water bodies that may be indirectly affected (mid-to-far field effects), or are suitable for providing reference sites to the proposed Project activities. Mid-field effects include stream locations that may experience occasional effects of low magnitude due to project activities. Far-field effects are stream areas that are located at the most downstream end of the zone of potential influence, and thus would only experience rare and low-level influence from activities upstream. Reference sites are stream areas that are located outside of project effects, and thus are used as indicators of natural baseline variability in the regional area. In 2014, one reference site was established in the Isaac Creek watershed, which is located approximately 30km east from the mouth of Coffee Creek along the Yukon River, upstream of where Excelsior and Britannia Creeks enter the river. In 2015, an additional reference site was established in the Los Angeles Creek watershed, located approximately 10km west from the mouth of Independence Creek along the Yukon River.

2.2 Review of Existing Literature

A review of existing studies completed in the project area was completed in spring 2014, and is attached to this report as Appendix A. The review summarizes fish community data collected from the Coffee, Independence, and Halfway Creek watersheds in 2000-2001 (Sparling 2001; Laberge and White Mountain 2002), 2010 (Laberge and White Mountain 2012), and 2013 (PECG 2013a, b; Access 2014). Benthic invertebrate community data was available for one site in lower Coffee Creek (Laberge and White Mountain 2002, 2012), and no periphyton or sediment quality data had been collected at any sites.

2.3 Field Data Collection

The fish and aquatic resources study program was carried out at 18 fish sampling sites, 17 fish habitat sites, and 12 benthic invertebrate, periphyton and sediment sites throughout the project study area (Table 1, Figure 1). In 2014, field data were collected during August 19 – 30, on fish communities; fish habitat; benthic invertebrate; periphyton; and sediment data. Additional fish community data were collected from October 2 – 7. In 2015, a winter survey of fish habitat took place from March 27-28; spring fish and fish habitat data were collected from June 18 – 23; summer fish community, fish habitat, benthic invertebrate, periphyton, and sediment data were collected from July 24 – August 1; and additional fish and fish habitat

data were collected from September 10-13. A description of the field activities completed during each of the six seasonal assessments is provided in Table 2.

Table 1. Fish and Aquatic Resources Sampling Sites, Coffee Gold Project, 2014-2015

Watershed	Creek	Site	UTM Co-ordinates (Zone 7V)		Sampling Events						BI/P/S (Y/N)	Description
			Easting	Northing	2014		2015					
					Aug	Oct	Mar	Jun	Jul	Sep		
Coffee	Latte	AQ06	582934	6971891	MT, H	-	-	EF	EF	-	N	Upper watershed
	Latte	AQ05	584272	6971769	MT, H	-	H	-	-	-	Y (2014)	Upper watershed
	Latte	AQ04.5	584792	6971697	-	-	-	EF, H	EF	-	Y (2015)	New site in 2015 to replace AQ05
	Latte	AQ04	591817	6970662	MT, EF, H	-	H	EF	EF	-	Y	Lower Latte Creek
	Latte	AQ03	594487	6970386	-	FN	H	EF	MT, EF	MT, EF	N	Just upstream of mainstem Coffee Creek
	Coffee	AQ02	594695	6970599	MT, EF, FN, H	MT	H	-	MT, A, FN	-	Y	Mainstem Coffee Creek just downstream of Latte Creek
	Coffee	AQ01	595974	6972573	MT, H	MT	H	MT, A	MT, A, FN	-	N	Mainstem Coffee Creek
	Coffee	AQ00	596860	6974237	MT, EF, FN, A, H	MT	H	MT, A	MT, A, FN	-	Y	Mainstem Coffee Creek
Halfway	Halfway	AQ21	582125	6974262	MT, H	-	-	EF	EF	-	N	Upper watershed

	Halfway	AQ20	588842	6980559	EF, H	-	-	EF	EF	-	Y	Just upstream of Yukon River
YR24	YR24	AQ31	585748	6976166	MT, H	-	-	EF	EF	-	N	Upper watershed
	YR24	AQ30	589691	6979174	EF, H	-	-	EF	EF	-	Y	Just upstream of Yukon River
Independence	Kona tributary	AQ13	578443	6975427	MT, H	-	-	EF	EF	-	Y	Upper Kona tributary
	Kona tributary	AQ12	575282	6979605	MT, EF, H	-	-	EF	EF	-	N	Just upstream of the confluence with mainstem Independence Creek
	Independence	AQ11	575876	6980006	MT, EF, H	MT	-	-	MT, A	-	Y	Mainstem Independence Creek
	Independence	AQ10	579393	6983200	MT, EF, H	MT	-	MT	MT	MT	Y	Mainstem Independence Creek
Isaac	Isaac	AQREF1*	626796	6968817	MT, EF, H	MT	-	MT	MT	-	Y	Reference site
Los Angeles	Los Angeles	AQREF2*	569529	6990874	-	-	-	MT	MT, EF, A, H	MT, EF, A	Y (2015)	New Reference site 2015

*Notes: Dashes indicate no sampling was completed, "Y"=yes, "N"=no, BI/P/S=Benthic Invertebrate/Periphyton/Sediment Quality Sampling MT=Minnow trapping, EF=Electrofishing, FN=Fyke Net Trapping, A=Angling, H=Fish Habitat Assessment, *Reference site*

Table 2. Fish and Aquatic Resources Field Data Collection Summary, Coffee Gold Project, 2014-2015

Year	Sampling Events	Benthic Invertebrates, Periphyton, Sediment	Fish Habitat	Fish Community	Fish Samples			Spawning Survey
					Metals	Ageing	Diet	
2014	August 19-30	Y	Y	Y	CCG (n=26) GR (n=3)	CCG (n=26) GR (n=3)	GR (n=3)	• Aug 28: Coffee and Independence Creeks; • Oct 6-7: Coffee, Independence and Yukon River.
	October 5 - 7	N	Y	Y	N	N	N	N
2015	March 27-28	N	Y	N	N	N	N	N
	June 18 - 23	N	Y	Y	GR (n=6)	GR (n=6)	N	• Latte Creek Arctic grayling Spawning Survey
	July 24 - Aug 1	Y	Y	Y	CCG (n=9) GR (n=16)	CCG (n=9) GR (n=16, lethal; n=25 non-lethal)	GR (n=5)	• July 25 - August 1: Coffee and Independence Creeks; • July 30: Yukon River.
	September 10-13	N	Y	Y	CCG(n=2) GR (n=1)	CCG (n=2) GR (n=1)	N	N

Notes: CCG=slimy sculpin, GR=Arctic grayling, "Y"=Sampling was completed, "N"=Sampling was not completed.

580000

N

Independence Creek

AQ10

AQ12

AQ11

Kona Tributary

Dan Man Creek

AQ20

Yukon River

AQ30

Halfway Creek

YR 24

AQ31

AQ13

AQ21

Trib C

AQ06

AQ05

AQ04.5

Latte Creek

AQ04

AQ02

AQ03

Coffee Camp

Camp Airstrip

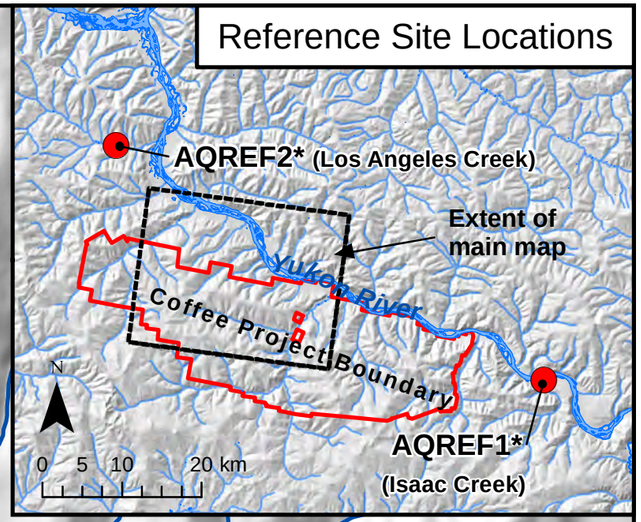
Coffee Creek

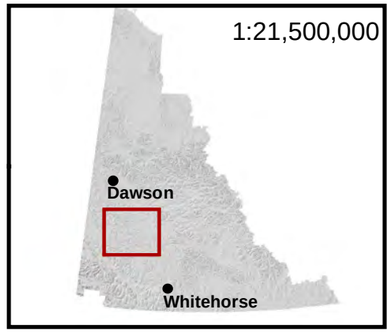
AQ00

AQ01

580000

Reference Site Locations





Legend

- Fish and fish habitat site
- Fish, fish habitat, benthic invertebrates, periphyton, and sediment site
- Reference site
- Access Road
- Watercourse
- Waterbody
- Coffee Project Boundary
- Proposed Heap Leach
- Proposed Waste Rock Dump
- Proposed Pit
- Fish barrier

0 0.75 1.5 3 km

Map scale 1:200,000

Figure 1 Coffee Gold Fish and Aquatic Resources Sampling Sites, 2014-2015

Drawn By: C. Brown
Checked By: A.Murdoch
Date: 14 December 2015
Projection: North American Datum 1983 UTM Zone 7N

Data notes

1:250,000 and 1:50,000 Topographic Spatial Data: National Topographic Database; courtesy of Her Majesty the Queen in Right of Canada, Department of Natural Resources. All Rights Reserved.

Digital Elevation Model provided by Geomatics Yukon - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

All other data provided by Kaminak Gold Corporation, 2014

This document is not an official land survey and the spatial data presented is subject to change without any notice.

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2.4 Field and Laboratory Methods

2.4.1 Sediment

At each site, three replicates per site were collected from three different erosional locations (e.g., undercut banks) using the finest sediment available at each site. Erosional locations were sampled based on Environment Canada recommendations for other mining baseline projects in the Yukon (e.g., Eagle Gold Project). Finer sediments are more useful for determining potential risks to aquatic life, as most chemical contaminants preferentially bind to silts and clays, and finer sediments are more likely to be consumed by benthic invertebrates (BC MOE 2012). Water depths and photos were taken at each sampling location (example photo shown in Figure 2). An additional sample was collected at one of the three replicate locations per site for analyzing particle size distribution. As recommended by the BC MOE (2012), a field split was completed for one replicate at every other site for Quality Assurance and Quality Control (QA/QC).

Figure 2. Example of sediment sampling location, Site AQ11, Coffee Gold Project, 2014

Sediment samples were analyzed for metals, total organic carbon, nutrients, and grain size by CARO Analytical Services. Samples were dried at 60°C, sieved using a 63 micron mesh (as recommended by BC MOE 2012), and digested using a nitric and hydrochloric acid mixture at 95°C for two hours. Inductively coupled plasma mass spectrometry (ICP/MS) was used to analyze samples. Laboratory detection limits for parameters are summarized in Table 3.

Table 3. Sediment Quality Parameters and Reported Detection Limits (RDL) (CARO Analytical) Coffee Gold Project, 2014-2015

Parameter	Units	RDL	Parameter	Units	RDL
Physical					
Carbon, Total Organic	% dry	0.05	Selenium	mg/kg	0.5
Percent moisture	% wet	0.1	Silicon	mg/kg	3000
pH	pH units	0.1	Silver	mg/kg	0.2
Ammonia	mg/kg	1	Sodium	mg/kg	40
Nitrate	mg/kg	1	Strontium	mg/kg	0.2
Phosphorus	mg/kg	2	Sulfur	mg/kg	1000
Calcium	mg/kg	5	Tellurium	mg/kg	0.1
Magnesium	mg/kg	5	Thallium	mg/kg	0.1
Potassium	mg/kg	5	Thorium	mg/kg	0.5
Sodium	mg/kg	5	Tin	mg/kg	0.2
Total Metals			Titanium	mg/kg	2
Aluminum	mg/kg	20	Uranium	mg/kg	0.1
Antimony	mg/kg	0.1	Vanadium	mg/kg	0.4
Arsenic	mg/kg	0.4	Zinc	mg/kg	2
Barium	mg/kg	1	Zirconium	mg/kg	2
Beryllium	mg/kg	0.1	**Particle Size Distribution**		
Bismuth	mg/kg	0.1	> 80 mm	%	0.1
Boron	mg/kg	2	> 56 mm	%	0.1
Cadmium	mg/kg	0.04	> 40 mm	%	0.1
Calcium	mg/kg	100	> 25 mm	%	0.1
Chromium	mg/kg	1	> 19 mm	%	0.1
Cobalt	mg/kg	0.1	> 12.5 mm	%	0.1
Copper	mg/kg	0.2	> 4.75 mm	%	0.1
Iron	mg/kg	20	> 2.36 mm	%	0.1
Lead	mg/kg	0.2	> 2.0 mm	%	0.1
Lithium	mg/kg	0.1	> 1.18 mm	%	0.1
Magnesium	mg/kg	10	> 600 µm	%	0.1
Manganese	mg/kg	0.4	> 425 µm	%	0.1
Mercury	mg/kg	0.05	> 300 µm	%	0.1
Molybdenum	mg/kg	0.1	> 150 µm	%	0.1
Nickel	mg/kg	0.4	> 75 µm	%	0.1
Phosphorus	mg/kg	10	< 75 µm	%	0.1
Potassium	mg/kg	10			

2.4.2 Periphyton

Periphyton sampling sites were selected in the project study area with the aim of standardizing depth, velocity, gradient, substrate, and sunlight exposure among sites (OMOE 2012). Sampling was completed in mid-late summer as periphyton communities were expected to have reached their maximum density and diversity during this time period.

At each site, five rocks were chosen randomly and sampled using a 1.7cm diameter syringe sampler. Approximately 50mL of sample was obtained per rock and emptied into a 1L bottle, for a combined 250mL volume per sample. The protocol differed slightly at site AQREF1 in 2014, where four rocks were sampled at a volume of 60mL/sample and a total of 240mL. The process was repeated two more times using un-sampled areas on the same rocks, for a total of 3 samples collected per site. Each of the three bottles was submitted for a separate analysis, which included chlorophyll *a*, biomass and species composition. Sample bottles submitted for chlorophyll *a* and biomass analyses were kept as cool as possible, covered in foil to prohibit entry of light, and delivered to an analytical laboratory within four days[1]. Sample bottles submitted for species composition were preserved using approximately 1mL of Lugol's iodine solution immediately following sampling. Samples were delivered to CARO Analytical Services (Burnaby, BC) for chlorophyll *a* and biomass analyses, and to Plankton R Us (Winnipeg, MB) for species composition enumeration. In 2015, one sample (AQ10), was broken upon arrival to Plankton R Us and thus periphyton community composition results are based only on 2014 analyses for this site.

To obtain chlorophyll *a* concentrations, samples were filtered, ground, extracted using 90% acetone and analyzed on a spectrophotometer. To measure algal ash-free dry mass (AFDM), samples were first dried at 105°C, weighed, and then oxidized at 550°C. AFDM quantifies the organic content of a sample, which is the difference in mass before and after incineration (mg/L).

Prior to species identification and enumeration, 1-2mL sub-samples were sonicated for 10-20s using a Sonifer Cell Disruptor w140, and then allowed to settle in an Ütermohl chamber for 24 hours (Findlay *et al.* 1999). Periphyton cells were then identified to the lowest taxonomic level possible and counted until 100 cells of the most numerous species were found.

2.4.3 Benthic Invertebrates

The Canadian Aquatic Biomonitoring Network (CABIN) protocol was applied at twelve sites in the project study area (Environment Canada 2012). A triangular CABIN protocol kick-net sampler with 400 micron mesh and detachable collection cup was employed. The net opening was faced into the stream current with the flat side of the net resting on the substrate of the stream. The sampler walked backward in the upstream direction, dragging the net along the bottom of the stream while disturbing the substrate with a kicking motion to a depth of ~5-10 cm. Sampling was zig-zagged over the stream bottom from bank to bank in an upstream direction for a timed period of three minutes. All samples were preserved using 85% ethanol and submitted to Cordillera Consulting (Summerland, BC) for species composition analysis.

Benthic invertebrates were identified to the lowest possible taxonomic group, which was to the family level for most aquatic insects, class for oligochaetes and phylum for nematodes. Benthic invertebrate density was reported relative to each kick net sampling event.

[1] Recommended holding times were surpassed for chlorophyll *a* analyses, but not for ash-free dry mass or periphyton taxonomy. Recommended sample temperatures (1-8°C) may have been exceeded during transport to the lab.

2.4.4 Fish Habitat

A total of 17 sites were assessed for fish habitat in the project study area (Table 1). Fish habitat was characterized following a modified version of the methods described in the Resources Inventory Standards Committee (RISC) Fish and Fish Habitat Inventory: Site Card Field Guide (Version 2.0, April 2008) and in the *Fish Habitat Assessment Procedures* guide for the British Columbia government (Johnston and Slaney, 1996), as there are no available watercourse sampling guides established for Yukon Territory. At each site, a minimum of 100m encompassing the fish sampling site was surveyed to assess habitat characteristics.

At each habitat site, stream length and stream width (*i.e*., wetted and bankfull width) was measured with surveyor's measuring tape. Gradient was measured with a Sunnto clinometer. Stream depth was measured with a meter stick, following methods outlined in Johnston and Slaney (1996). Stream stage (water level) was assessed as low, medium or high visually by comparison between stream surface height and bankfull height. Habitat was visually assessed into the following five types:

- ***Pools*** have zero gradient, slow-moving water and a concave bottom;
- ***Runs*** (also called glides) are sections of non-turbulent, fast-flowing water;
- ***Riffles*** are areas of turbulent, fast-flowing water with gravel or cobble substrates and with obvious surface turbulence;
- ***Cascades*** are steep, stepped "riffles" of bedrock or emergent cobble or boulders in channels with gradients greater than about 4%; and
- ***Other*** includes wetland complexes that lack an identifiable primary channel, sloughs, lakes, areas of sub-surface flow or areas where the channel cannot be observed (e.g., under large log jams).

Stream substrate was assessed visually into the following classes:

- fines (or silt);
- small gravel (2-16 mm particle diameter);
- large gravel (16-54 mm);
- small cobble (64-128 mm);
- large cobble (128-256 mm);
- boulder (>256 mm); or
- bedrock.

The percent of the stream surface that provided fish with cover was described using the following classes:

- deep pool (>1m depth);
- large woody debris (LWD);
- boulder;
- cutbank;
- instream vegetation; and
- overhanging vegetation.

The percentage of the overhead forest canopy that was closed was estimated visually.

The percentages of a stream section that belonged to each habitat type had to add to 100%, as did the percentages of the substrate of a stream section that belonged to each size class and the % of the canopy that was closed. However, the percentages of cover provided by the various classes did not have to add up to 100%.

Stream confinement was assessed as:

- unconfined (UC) – the stream bank is not touching the valley wall;
- occasionally confined (OC) – the stream bank is occasionally confined by the valley wall or terraces;
- frequently confined (FC) – the stream bank is frequently confined by the valley wall or terraces;
- confined (CO) – the stream bank is in continuous or repeated contact at the outside of meander bends;
- entrenched (EN) – the stream bank is in continuous contact with the valley walls or terraces due to downcutting; and
- not applicable (NA) – no valley walls exist (e.g., alluvial fans).

In addition, general *in situ* water quality parameters were measured as part of fish habitat assessments including pH, conductivity (µs/cm), temperature (°C), and dissolved oxygen concentration (mg/L and %).

Stream Temperature:

Temperature loggers (TidbiT v2 Temp Logger, Onset Hobo, 2013) were deployed in five creeks during the spring reconnaissance trip (June 1, 2014). The temperature loggers were anchored onto the streambed to reduce dislodging and were set to record stream temperatures every 15 minutes. On October 6-7, 2014, the loggers were downloaded and re-deployed, and the logging interval was changed in 60 minutes (Table 4). One temperature logger (T5) was originally set in a tributary south of the Kona Tributary, and was re-located to site AQ12 on the Kona Tributary in October, 2014. In spring 2015, some of the loggers had been re-located outside of the stream during freshet and were placed back into their original positions. Stream temperatures were again collected during the summer months and downloaded in September, 2015, with the exception of T1 which could not be located for retrieval. For a more thorough record of stream temperatures in the Coffee Gold study area, please refer to the Hydrology Baseline Report.

Table 4. Stream temperature logger locations, Coffee Gold Project, 2014-2015

Watershed	Creek	Logger ID	UTM Co-ordinates (Zone 7V)		Date Installed (2014)	Download Date (2014)	Removal Date (2015)	Description
			Easting	Northing				
Coffee	Coffee	T1	596,813	6,974,174	01-Jun-14	06-Oct-14	-	Lower Coffee Creek, downstream of AQ00
Coffee	Latte	T2	591,817	6,970,662	01-Jun-14	06-Oct-14	12-Sep-15	Lower Latte Creek, near AQ04
YR24	YR24	T3	585,708	6,976,068	01-Jun-14	06-Oct-14	12-Sep-15	Near the creek outlet and AQ30
Halfway	Halfway	T4	584,819	6,977,431	01-Jun-14	06-Oct-14	12-Sep-15	Near hydrology station and AQ20
Independence	Kona	T5	573,598	6,974,768	-	06-Oct-14*	12-Sep-15	Lower Kona tributary, near AQ12

Notes: T1 was not located for retrieval in 2015
**T5 was first installed on October 7, 2014*

2.4.4.1 Winter Fish Habitat Survey

The winter fish habitat survey was conducted on March 27-28, 2015. The objective of the survey was to determine if there was any potential overwintering habitat at sites in Latte and Coffee Creeks (Table 1). Late March was chosen for this survey as it was near the end of the winter season, and thus potentially provided the poorest water quality (e.g., low dissolved oxygen) and flow conditions under ice. An ice auger and chisel were used to conduct under ice assessments, and *in situ* water quality, ice thickness, and water depth measurements were collected where there was sufficient flow.

Prior to the field assessment, habitat mapping from the 2014 open water season was used to identify deep pool habitat sites that were candidates for overwintering habitat. Based on this assessment, the crew surveyed approximately 6 pools starting at the confluence with Coffee Creek to a location approximately 1 kilometer upstream. Further upstream, habitat near sites AQ04 and AQ04.5 were also surveyed. At AQ04, approximately 200 m of the creek was surveyed, upstream and downstream of the site (400 m total), including a location known to be a deep pool in summer. At AQ04.5, the survey covered areas of the creek in the immediate vicinity of the site, as well as the Latte Creek tributary that overlaps with the proposed south waste rock storage facility. On Coffee Creek, the crew surveyed the winter habitat at AQ02 (approximately 300 m downstream from Latte confluence), AQ01, and AQ00. An underwater camera (Aqua-Vu AV Micro II color camera, with an infrared light source) was deployed under the ice for 15 minutes at AQ02 and AQ01 to check for fish presence (no flow was detected at AQ00). The camera was attached to a rod and lowered slowly down to the stream bed, so that the substrate was visible. To maximize the view, the camera was slowly moved up and down (i.e. vertically) over the entire water column and also rotated 360 degrees at multiple depths. The two biologists watched the display for

any fish or movement. Visibility was limited by the extent of the light source and water turbidity, and occasionally by woody debris or sub surface layers of ice.

2.4.5 Fish Community

2.4.5.1 General Fish Community Field Methods:

Various site-specific fish sampling methods were conducted and included backpack electrofishing, minnow trapping, fyke net trapping, and angling. Specific sampling dates and methodologies are further detailed in Appendix F. Electrofishing at all sites was completed using a Smith-Root LR-20 Backpack Electrofisher and a two-person crew under two Scientific Fish Collection Permits (XR 249 2014 and XR 166 2015). Site lengths ranged from 60-275m and were selected to contain multiple mesohabitats (e.g., pool, riffle, run) representative of the reach being sampled. Electrofishing voltage ranged from 150-350V, and was adjusted at each site depending on water conductance, temperature, and expected fish size. Electrofishing effort varied from 430-2276s per electrofishing pass, with an average effort of 937s/pass. Multiple-pass electrofishing was carried out at three sites in 2014 (three-pass at AQ04, AQREF1, and two-pass at AQ10), and at two sites in 2015 (three-pass at AQ04, AQREF2) in order to obtain fish species presence/absence information and standardized density estimates.

Prior to electrofishing, stop nets were positioned at the upstream and downstream ends of the sample section to prohibit fish migration during sampling. Each pass completed had similar effort, and a minimum of 30 minutes was allowed to elapse between passes to allow recovery of un-captured fish. Fish were released into areas outside of the site boundaries after processing and recovery. Stop nets were also deployed at AQ10 in order to prevent escapement of fish from the sampling area. All other study sites did not require stop nets, as they were either too large for creek isolation (e.g., mainstem Coffee Creek), or were small enough with low enough flows that natural barriers to fish passage were present (e.g., lower Halfway Creek, YR24, and Kona Tributary). Headwater sites (Latte Creek: AQ05, AQ06; YR24: AQ31; Halfway Creek: AQ21; Independence Creek Kona Tributary: AQ13) had extremely low temperatures and flows at the time of sampling in late August 2014, and thus were not conducive to electrofishing, which is largely ineffective at low temperatures (<5°C). Similarly, electrofishing was not carried out in October, 2014 at any sites due to very cold water temperatures.

Extensive minnow trapping was conducted over both years and several seasons at the majority of sites (Table 10). In 2014, between eight to ten traps were deployed at all sites during August sampling on the mainstems of Coffee and Independence Creeks, and on Isaac Creek, whereas five traps were set per site in October. Smaller numbers of traps (two to five) were deployed in Latte Creek, Kona Tributary, Halfway Creek, and YR24 in August only. In 2015, five traps were set per site during spring and summer sampling in Coffee Creek, Independence Creek, and at both reference sites. Some additional trapping was carried out at select sites in the fall, with the aim of capturing more fish samples for metals analysis. Minnow traps were made of 0.6cm galvanized steel wire mesh with a conical entrance and were 42cm long with a 23cm diameter. Minnow traps were placed at each site in deep pools or among large woody debris or in slow-moving eddies. Each trap was baited with a perforated bag of Yukon River salmon roe and left to soak for approximately 24 hours.

In 2014, fyke nets were deployed overnight in August at sites AQ00 and AQ02, and in October at AQ03. Site AQ03 was a late addition to the 2014 program and was only sampled in October using a fyke net[2]. In 2015, fyke nets were again used at all three sites in mainstem Coffee Creek. The nets were set in slow-moving pool habitats, and the wings extended to direct fish towards the net entrance. Fyke nets were made of ½'' knotless nylon mesh, a funnel ring size of 2.5'', 24'' diameter aluminum hoops, a main net length of 12', and two wings each of 10' length (Fipec, Quebec, 2014). The nets were equipped with a leaded braid line on the lower net, and plastic floats on the wings.

In 2014, angling using spinning rods was conducted at AQ00 in August, 2014 using a two person crew for 1h. In 2015, angling was completed using both spinning and fly fishing rods at several sites including AQ00, AQ01, AQ02, AQ11, and AQREF2. The number of people fishing and duration varied at each site, with an average of 3.2 rod-hours per site (i.e. cumulative number of hours spent fishing per person per site).

All fish were identified to species and counted in the field. Fork length was measured to the nearest 1 mm with a measuring board (total length was measured for slimy sculpin), and wet weight was measured to the nearest 0.1 g or 1.0 g with a balance, depending on size of fish (Ohaus Scout Pro SP2001). Due to the large number of fish captured at some sites, up to 30 fish/species were measured per sampling event after which fish were counted but not individually measured for length or weight.

In 2014, an Arctic grayling tagging program was initiated to provide insight into annual site fidelity of feeding areas and migration patterns around project watercourses. Arctic grayling greater than 200m in length were tagged using an MK25 implant gun with 12mm Passive Integrated Transponder (PIT) tags (134.2 kHz ISO HDX, Biomark, ID, 2014). Tags were encapsulated in biocompatible glass and provide 100% unique identification. Fish were monitored for a minimum of 20 minutes following tagging to ensure successful re-entry into the stream. Due to time constraints, the tagging program was not continued in 2015, however a portable hand held reader (Biomark 601) was employed to scan captured Arctic grayling for tags. All implanted (n=31) and re-captured (n=4) tags are listed individually in Appendix F4.

In 2014, a small sub-set of slimy sculpin (n=26) from three sites (AQ02, AQ10, AQREF1) were sampled to obtain age (otoliths) and tissue metals analysis data. In 2015, more slimy sculpins were collected from sites that were added late in 2014, or in 2015 (AQ03, AQREF2). The aim was to collect eight samples from each of these sites, however low densities and poor sampling conditions (high and turbid flows) yielded small sample sizes (n=1 at AQREF2 and n=3 at AQ03). In addition, to verify sample quality from 2014[3], some additional samples were acquired from Coffee, Independence, and Isaac Creeks. Three samples were collected from AQ02 and AQREF1, but only one sample could be collected from AQ10 due to high flows. The selection of slimy sculpin for metals analysis provided relevant insight into site-specific metal contamination due to (1) the prevalence of the species in the study area, (2) its demonstrated high site fidelity (Gray *et al.* 2004), and (3) its sensitivity to stream sediment metal loading due to its benthic-dwelling nature.

[2] Due to the addition of AQ03 during the October sampling trip, sites further upstream were originally referred to as AQ03, AQ04 and AQ05 in field notes, August lab submissions, and in Appendix D2 unless otherwise noted. They were subsequently updated as AQ04, AQ05, and AQ06, respectively.

In 2014, three Arctic grayling samples were collected (two from AQ04 and one from AQ11) for analyzing diet, age (scales and otoliths), and metals analysis of tissues. In 2015, an additional 23 Arctic grayling from Latte, Coffee, Independence, and Los Angeles Creeks were lethally sampled for metals and ageing. A sub-set of the 2015 Coffee Creek Arctic grayling samples (n=5) were also sampled for diet analyses. An additional 25 grayling from both mine area and reference watercourses were non-lethally sampled for ageing using scales.

No fish samples were collected from Halfway Creek or YR24 due to very low sample sizes and captured fish being within the Yukon River influence. A total of n=1 Arctic grayling/year caught in lower Halfway Creek precluded any lethal sampling, as the DFO Scientific Collection permit prohibited sampling more than 10% of Arctic grayling captured at any site (XR 249 2014). No fish were captured at YR24 with the exception of five slimy sculpins that were captured in June 2015, all within 30m of the confluence with the Yukon River. Due to this close proximity to the Yukon River, absence of overwintering habitat in YR24, and high likelihood for migrations in and out of the creek outlet, these fish were not considered for providing representative baseline data for metals analyses.

Otoliths and scales were sent to North/South Consultants (Winnipeg, MB) for ageing, stomach contents were preserved using 85% ethanol and sent to Cordillera Consulting for species composition analysis, and dorsal muscle tissue was frozen upon sampling and delivered to CARO Analytical for metals analysis[3]. Slimy sculpin heads were submitted for ageing analyses, and the remaining whole-body was submitted for tissue metals analyses. Arctic grayling metals analyses was performed on a piece of muscle tissue from the dorso-lateral area, as recommended in BC MOE (2012).

Laboratory Methods:

To determine fish ages, a small sub-set (three or four) of intact representative scales were chosen by North/South Consultants from each individual fish sample. Scales were pressed between two glass slides and then viewed using a dissecting microscope under reflected light. Otoliths were set in Cold Cure™ epoxy for 48 hours until hardened, and then cut into thin sections using a Struers Minitom™ low speed-sectioning saw. The sectioned piece was then mounted on a microscope slide and viewed under a dissecting microscope with transmitted light for ageing.

Stomach sample contents (≥212 µm) were identified by Cordillera Consulting to the lowest possible taxonomic group, which was to family for most aquatic insects; Class for oligochaetes; and Phylum for nematodes.

CARO Analytical analyzed metals of fish tissue samples by first weighing and then digesting samples using a mixture of hydrogen peroxide and hydrochloric acid at 95°C for two hours. Samples were then filtered and analyzed using inductively coupled plasma mass spectrometry (ICP/MS). There were 31 total metals analyzed with detection limits reported in Table 5.

[3] In 2014, recommended fish sample temperatures may have been exceeded during transport to the lab.

Table 5. Fish Tissue Metals and Detection Limits (CARO Analytical), Coffee Gold Project, 2014-2015

Metal	Reported Detection Limit
Aluminum	0.4
Antimony	0.002
Arsenic	0.005
Barium	0.01
Beryllium	0.002
Bismuth	0.02
Boron	0.1
Cadmium	0.002
Calcium	2
Chromium	0.01
Cobalt	0.004
Copper	0.01
Iron	1
Lead	0.004
Magnesium	2
Manganese	0.02
Mercury	0.002
Molybdenum	0.01
Nickel	0.01
Phosphorus	5
Potassium	10
Selenium	0.02
Silver	0.01
Sodium	2
Strontium	0.01
Thallium	0.001
Tin	0.02
Titanium	0.05
Uranium	0.001
Vanadium	0.02
Zinc	0.5

Note: All units are mg/kg wet weight

2.4.5.2 Fish Spawning Surveys

2.4.5.2.1 Salmon Spawning Surveys

Both Chinook and chum salmon are known to migrate through or reside in the Yukon River near the Project area. Spawning salmon enter the Yukon River in Alaska from the Bering Sea and travel hundreds of kilometers upstream before entering Canadian waters. Yukon River Chinook salmon return to the mouth of the Yukon River from mid to late May through to early July, with the peak migration timing into Canadian waters occurring in mid to late July. Chinook salmon spawning typically occurs in Canadian waters from late July to mid-September (Yukon River Panel 2014). The peak migration timing of Yukon River chum salmon into Canadian waters occurs later in the fall in mid-September, with peak spawning occurring from October through to early November (Yukon River Panel 2014).

Salmon spawning surveys were conducted by two fisheries biologists in August 2014, October 2014, and in July-August 2015 (Table 6). A helicopter hovered just above the treeline and travelled at a slow enough speed to allow observations of any spawning activity, such as the presence of adult salmon or areas where salmon had created nests (redds). In Coffee and Independence Creeks, multiple spawning surveys occurred in summer 2015 over the course of a week of fish community sampling. The water clarity was moderate to good during each survey, although water clarity in the Yukon River ranged from turbid in the thalweg to clear in the river margins and side channels. Thus, surveying did not cover the entire Yukon River area from bank to bank.

Table 6. Salmon Spawning Surveys, Coffee Gold Project, 2014-2015

Date	Location	UTM Co-ordinates (Zone 7V, Easting, Northing)	
		Start	End
28-Aug-14	Independence Creek from Yukon River to Kona Tributary	580521, 6984765	575261, 6979622
28-Aug-14	Coffee Creek from Yukon River to Latte Creek	599397, 6977125	594507, 6970377
06-Oct-14	Coffee Creek from Yukon River to Latte Creek	599397, 6977125	594507, 6970377
07-Oct-14	Yukon River from Coffee Creek to Carlisle Creek	599397, 6977125	576016, 6987383
07-Oct-14	Independence Creek from Yukon River to Kona Tributary	580521, 6984765	575261, 6979622
30-Jul-15	Yukon River from Ballarat Creek to Independence Creek	603429, 6975051	581014, 6984576
July 25 - August 1, 2015	Coffee Creek from Yukon River to Latte Creek	599397, 6977125	594507, 6970377
July 24 - August 1, 2015	Independence Creek from Yukon River to Kona Tributary	580521, 6984765	575261, 6979622

2.4.5.2.2 Arctic Grayling Spawning Survey

In mid-late June 2015, Arctic grayling in Latte Creek were assessed for spawning behavior (territory guarding, spawning congregations, or any courtship displays), external features indicating spawning condition, and internal gonadal development (RIC 1996; Stewart *et al*., 2007a). Arctic grayling in northern ecosystems are known to spawn at or shortly after spring ice break-up which typically occurs from mid-May to mid-June, with some spawning continuing into early July (Stewart *et al*., 2007a). Spawning typically occurs annually after maturity, although some individuals may skip a year after their first spawning season (Stewart *et al.*, 2007a). Stream temperature is a major factor influencing Arctic grayling spawning, with spawning occurring at temperatures above 4°C and with daily means fluctuating between 6-10°C (Stewart *et al*., 2007a). Therefore, timing of the spawning assessment was made based on temperature data available from June-July 2014 which indicated that Latte Creek did not reach adequate temperatures for spawning until early summer.

The Arctic grayling spawning assessment consisted of several components and was carried out from June 18-23, 2015. Upon arrival to site, temperature data from the logger stationed at AQ03 on lower Latte Creek was downloaded and assessed relative to known preferred Arctic grayling spawning temperatures. Temperatures were also monitored using the YSI water quality metre at fish sampling sites AQ03 and AQ04 over the duration of the trip and cross-referenced with the temperature logger data. Sites AQ03 and AQ04 were selected for spawning assessments as they are representative of lower-mid Latte Creek habitat, and are known to support Arctic grayling during the summer months. Fish habitat quality for spawning was assessed over each fishing site concurrent with observations of any fish presence or spawning behavior. Arctic grayling prefer unembedded gravel sized substrate for spawning, at depths <1m, in clear, fast-flowing tributary streams (Stewart *et al*., 2007a). When no spawning behavior was confirmed, each site was electrofished twice over the one week period. Captured fish were assessed for any external signs of maturity state according to the RIC guidelines (1996):

- Immature (IM): Young individuals that have not yet reproduced; fish with underdeveloped gonads. Maturing (MT): Ovaries and testes begin to fill out and take up a large part of the body cavity; eggs distinguishable to the naked eye.
- Mature (M): Fish in full spawning colours; gonads at maximum size; body cavity feels full, especially females; roe or milt is not produced if the body cavity is lightly squeezed.
- Spawning (SP): Fish in full spawning colours; eggs and milt are expelled when body cavity is lightly squeezed (also referred to as gravid).
- Spent (ST): Still have spawning colours; eggs and sperm totally discharged; body cavity feels empty and genital opening is inflamed; gonads empty except for a few remaining eggs or residual sperm.
- Resting (R): Adult sized fish; spawning colours not as apparent; gonads are very small and eggs may not be visible to the naked eye.

At the end of the assessment period, six Arctic grayling were lethally sampled providing a more thorough assessment of sexual maturity state.

2.5 Data Analysis

The standard deviation (SD) was the index of dispersion for all arithmetic means shown in this report, and n was the sample size. All statistical analyses were completed using Statistica version 8 (StatSoft Inc.,Tulsa OK, 2008), with significance levels set to α=0.05.

2.5.1 Sediment

All sediment metrics were calculated as an average over the 2014-2015 period. Sediment data was compared to the Canadian Council of Ministers of the Environment (CCME) Sediment Quality Guidelines for the protection of aquatic life (1999) to identify any parameter exceedances. CCME established two types of guidelines: Interim Sediment Quality Guidelines (ISQG) and Probable Effects Level (PEL). ISQG are concentrations below which adverse biological effects are expected to occur rarely, and PEL are concentrations above which biological effects are expected to occur frequently.

Values below detection limits were replaced with one-half the detection limit. Mean, minimum, maximum and standard deviation were calculated for each parameter by site in Microsoft Excel. While most sites had sample sizes of three for each parameter/year, site AQ11 had only two in 2015 as the third sample was broken during transit to the lab. Thus, results reported for AQ11 are weighed slightly towards 2014 values.

2.5.2 Periphyton

All periphyton metrics were calculated as an average over the 2014-2015 period. Chlorophyll *a* concentrations (µg/L) and periphyton ash-free dry mass (mg/L) were converted to represent mass/area (µg/cm^2 or mg/cm^2) using the known volume sampled per area of substrate at each site. Similarly, periphyton cell density (cells/cm^2) was calculated relative to the sampled substrate area at each site. Periphyton community composition was determined by calculating the relative densities of four main algal groups by site including: Diatoms (*Bacillariophyceae*), green algae (*Chlorophyta*), blue-green algae (*Cyanophyta*), and red algae (*Rhodophyta*).

Taxa richness was calculated as the total number of species present at each site. Where species could not be discerned, the lowest possible taxonomic level identified was substituted. Biodiversity was measured for periphyton samples using the Shannon-Wiener index (H') as follows:

$$H' = -\sum_{i=1}^{R} p_i (\ln p_i) \quad (1)$$

Where R is taxa richness, and p_i is the total number of individuals in the ith species divided by the total number of organisms in the sample.

2.5.3 Benthic Invertebrates

Parameter selection for benthic invertebrates was based on the protocols recommended by the Canadian Aquatic Biomonitoring Network (CABIN), which is supported by the National Water Research Institute (NWRI) of Environment Canada (NWRI 2008).

Benthic invertebrate samples were analysed using the Reference Condition Approach (RCA) as adopted from Environment Canada's Canadian Aquatic Biomonitoring Network (CABIN) protocols. CABIN field sheets were used to collect all the data required for input into the CABIN database. This includes general site and location data, reach data (*i.e*. habitat types, canopy coverage, periphyton coverge, etc.), basic water chemistry, slope, widths, depth, velocity, and substrate data. Once uploaded to the CABIN database, data was compared to the Yukon 2013 reference model using the predictor variables: Channel depth, stream velocity, longitude, precipitation (June), rainfall (Feb, March, June, July), maximum April temperature, and landcover values (Natl-BroadLeafopen, Natl-Bryoids, Natl-MixedWoodOpen, Natl-WetlandHerb). With the exception of stream depth, velocity and longitude values, which were collected in the field, all parameters were generated from GIS layers by PECG.

CABIN analyses include Bray-Curtis, River Invertebrate Prediction and Classification System (RIVPACS) and Benthic Assessment of Sediment (BEAST) Site Assessment Graphs. The Bray-Curtis dissimilarity coefficient is a distance measure that analyses how similar the test sites are to the median of the reference sites; a value of 1 indicates the two sites are entirely different from one another and a value of 0 indicates the two sites are identical in community structure. RIVPACS predicts the probability of a taxonomic group occurring at a test site based on what is expected to occur. Finally, the BEAST analysis is a tool that evaluates whether or not a test site is in reference condition, and if not, then how divergent it is from reference condition. Ordination plots are generated in CABIN and provides an overall indicator of whether a site is in reference condition (unstressed), potentially stressed or stressed.

In addition to the CABIN model outputs described above, traditional community descriptors were also used on benthic invertebrate data. Metrics were calculated as an average over the 2014-2015 period. These include:

- Abundance, calculated as the total number of individuals per kick/net per site,
- Taxonomic richness, calculated as the total number of species present at each site. Where species could not be discerned, the lowest possible taxonomic level identified was substituted,
- EPT taxa richness, defined as the total number of mayflies (Ephemeroptera), stoneflies
- (Plecoptera) and caddisflies (Trichoptera) families per site. These three orders of aquatic insects are typically most sensitive to habitat disturbance,
- Percentage composition, calculated by dividing the density of dominant taxa groups by the total density, and,
- Simpson's diversity (D) and Evenness (E) indices, as defined in Equations (2) and (3) below:

$$D = 1 - \sum_{i=1}^{S} (p_i)^2 \quad (2)$$

$$E = 1/\sum_{i=1}^{S} (p_i)^2 / S \quad (3)$$

Where S is taxa richness, and p_i is the total number of individuals in the i^{th} species divided by the total number of organisms in the sample.

2.5.4 Fish Habitat and Fish Community

Stream Temperature

The period of record for stream temperatures is from June 1, 2014 to mid-September 2015, with the exception of Coffee Creek which has a record from June 1 to October 6, 2014, and the Kona tributary which was first installed on October 7, 2014. Daily and monthly summary statistics (means, maxima, and minima) were calculated during the open water period (June – October) for each creek where a logger was deployed. Where multiple years of data were available, monthly averages were made based on both years. The temperature time series were examined to identify periods where data were suspect (e.g. elevated readings, when logger may have been dry), and any such data were excluded from the calculations. The mean temperatures were calculated as weighted averages based on the number of days of data available. Mean, minimum and maximum daily stream temperature data is included as Appendix E2.

Fish Abundance and Population Density

Relative fish abundance in the study area was determined using a catch per unit effort (CPUE) index, defined as the number of fish caught per 100s of electrofishing effort, or number of fish caught per trap per day. CPUE for minnow trapping was calculated by species and site, per sampling trip season (e.g., June, July, August or October). CPUE for electrofishing was calculated by species and site for the two years combined, as preliminary analyses revealed that data was similar for both years. Fish population estimates were calculated for sites where multiple passes were possible (AQ04, AQ10, AQREF1) using the Zippin two and three-pass exact methods approach as described in Seber & LeCren (1967), Seber & Whale (1970) and Seber (1982). Areas were calculated by multiplying site sampling length (m) with the mean wetted width (m), and then population estimates were divided by area to obtain density estimates (#/100m^2). For sites with multiple passes, CPUE was calculated only using data from the first pass.

Size, Age, Condition

The length-age relationships for Arctic grayling and slimy sculpin were estimated by fitting a von Bertalanffy growth model with non-linear regression. The model was as follows:

$$L_t = L_\infty\left(1 - e^{\left(-K(t-t_0)\right)}\right) \quad (4)$$

where L_t = length (mm) at time t, L_∞ = theoretical maximal length, K = growth coefficient measuring the rate at which the maximal size is attained, and t_0 = theoretical age at zero length. Weighted non-linear regression models with weights set equal to age-class sample sizes were implemented to increase model accuracy. The model for Arctic grayling length-at-age was created using combined data from mainstem Coffee, Latte, and Independence Creek watersheds in order to provide a robust relationship for the overall mine area. For slimy sculpin, only Coffee Creek sculpins (including Latte Creek data) produced a realistic model that was statistically significant. Sculpins from Latte and Coffee Creek were combined due to their close proximity, and low sample size for Latte Creek (n=3). For both species, mean length-at-age was calculated by watershed based on samples collected from five watercourses (mainstem Coffee Creek, Latte Creek, Independence Creek, Isaac Creek, and Los Angeles Creek). Mean age was tested

for statistical differences by watershed using one-way Analysis of Variance (ANOVA) and followed by post-hoc Tukey HSD tests to identify pairwise differences where appropriate. When data did not meet parametric test requirements (e.g., equal sample variances), a nonparametric Kruskal-Wallis H-test was performed.

Weight-length regressions for fish were calculated as:

$$ln\,(W) = a + b \times ln\,(L) \quad (5)$$

where W = weight (g) and L = length (mm), a = the intercept of the regression and b = the slope of the regression. Watershed-specific regressions were completed for each species with sufficient sample sizes (n>30), which included Arctic grayling, slimy sculpin and Chinook salmon. Watersheds were classified according to the following groupings: Coffee Creek mainstem (sites AQ00, AQ01, AQ02), Latte Creek (AQ03, AQ04), Independence Creek (sites AQ10, AQ11), YR24 (site AQ30), Isaac Creek (site AQREF1), and Los Angeles Creek (AQREF2). Only watersheds within a minimum of five fish/species were included in analyses. Combined regressions from fish in the Coffee Creek mainstem, Latte Creek, Independence Creek, YR24, and Halfway Creek are presented in the results to characterize the overall weight-length relationships of fish species in watersheds that may experience project effects. Five outliers were identified and subsequently removed from slimy sculpin weight data in Isaac Creek, and were likely due to the difficulties associated with weighing very small fish in the field.

One sample t-tests were performed on estimated weight-length slope coefficients to determine if slopes significantly differed from the isometric growth value of three. Slope coefficients used in t-tests were estimated using watershed-specific linear regressions. Isometric growth is a requirement for calculating fish condition using the Fulton condition factor (K), as it assumes that fish shape does not change with increasing length. The Fulton condition factor was calculated for slimy sculpin:

$$K = \frac{W}{L^3} \times 100{,}000 \quad (6)$$

Where K = Fulton condition factor, W= weight (g) and L= fork length (mm).

Arctic grayling and juvenile Chinook salmon condition could not be assessed using the Fulton condition factor, due to allometric growth in one or more watershed. Instead, the relative condition factor (K_n) was used to characterize fish condition:

$$K_n = \frac{W}{W'} \quad (7)$$

Where W = fish actual weight (g) and W'= predicted length-specific weight using the length-weight regression for all watersheds (data from reference sites included) outlined in equation 5.

Statistical comparisons of fish condition were made using one-way Analysis of Variance (ANOVA) and followed by post-hoc Tukey HSD tests to identify pairwise differences where appropriate. When data did not meet parametric test requirements (e.g., equal sample variances), a nonparametric Kruskal-Wallis H-test was performed. Only watersheds with n≥5 were included in statistical analyses.

Metals Analysis

Selected total metals were compared among watersheds and included: aluminum, arsenic, barium, cadmium, copper, iron, lead, mercury, manganese, molybdenum, nickel, selenium, strontium, thallium and zinc. Values below detection limits were replaced with one-half the detection limit for analyses.

The mean and standard deviation of each metal were reported by watershed and compared to various guidelines for the protection of aquatic and piscivorous wildlife, as well as to Health Canada standards for mercury levels in fish. Currently, information is lacking for developing safe metal concentration levels for fish, with guidelines available only for selenium and mercury. The selenium concentration guideline of 4mg/kg (dry weight) is a newly developed guideline prescribed by the British Columbia Ministry of Environment (2014) for the protection of freshwater aquatic life, with the aim of preventing selenium bioaccumulation up the food chain. With the 2014 updates, BC also provided Human Consumption Screening values for selenium that is based on Health Canada's recommended equation for ingestion of Se-contaminated fish and the dietary reference value's tolerable upper intake (BC MOE 2014). The screening values vary from 7.3 – 75 µg/g (dry weight) depending on the amount of fish regularly consumed. Selenium concentrations were converted to dry weight using percent moisture:

$$d \quad w \quad ht = \frac{w \quad w \quad ht}{1 \quad -(\%\, m \qquad)} \times 100 \qquad (8)$$

The CCME mercury guideline for the protection of piscivorous wildlife is based on methymercury concentrations (0.033mg/kg), which is the biologically relevant form of mercury due to its potent neurotoxicity to humans and wildlife (CCME, 2000). The proportion of mercury in fish tissue in its methylated form varies by species, and previous studies have demonstrated that in slimy sculpin tissue approximately 83% of total mercury levels are methylated (Raymond and Rossmann, 2009). Arctic grayling tissues have a higher proportion of methylated mercury at approximately 95% (Jewett *et al*. 2003). Thus, for comparing mercury levels with the CCME guideline, 83% and 95% of total mercury values were calculated as estimated methylmercury levels for slimy sculpin and Arctic grayling, respectively. In addition, total mercury was compared with Health Canada mercury guidelines, which range from 0.2mg/kg for subsistence consumers to 0.5mg/kg for the maximum allowable level for sale in Canada. Notably, as slimy sculpin are not consumed by humans the comparison to Health Canada guidelines are not directly relevant, but instead provide an estimation of non-piscivorous fish which may be in turn consumed by piscivorous fish. As mercury is known to both bioaccumulate in aquatic organisms and biomagnify up trophic levels, comparing forage fish mercury values to Health Canada guidelines still provides valuable insight into aquatic ecosystem health.

Diet

An analysis of diet focused on Arctic grayling from Latte and the mainstem of Coffee Creek only. Raw data for the single Independence Creek Arctic grayling is included in Appendix F6. Prey items were sorted by order, and then the mean and standard deviation of prey items per fish was calculated.

2.6 Quality Assurance and Quality Control

All field sampling was completed by two qualified aquatic biologists, with the same methods employed at each site for consistency. All field data was transcribed into excel spreadsheets and plotted to determine data outliers. Original field notes were consulted where necessary to identify transcription errors or potential field equipment errors. Outliers were corrected or excluded where appropriate.

2.6.1 Sediment

Sediment quality samples were collected by an aquatic biologist. Appropriate measures were taken to reduce potential for sample contamination. Field staff wore nitrile gloves when sampling and used pre-cleaned sample bottles supplied by CARO Analytical. Care was taken to ensure the inner portion of the sample container and caps did not touch anything other than the sample itself. Sample containers were kept in the laboratory supplied cooler before and after collection of the sample. All samples were kept cold at all times between sample collection and delivery to the laboratory. Chain of Custody forms accompanied all samples.

Field split samples were collected for one replicate sample at every other site, as recommended by the BC MOE (2012). Relative Percent Difference (RPD) was calculated for field split samples and is provided in Appendix B2. An RPD less than 25% is considered an acceptable difference, and an RPD greater than 25% warrants further examination to ensure that the result was not due to sampling error or analytical error. RPD is only relevant when both values are greater than the Practical Quantitation Limit (PQL), which was defined for this project as three times the detection limit. The PQL is considered the lowest concentration that can be accurately measured, as opposed to just detected. Between zero and four replicate values of the 47 parameters that were measured from each sample had RPDs greater than 25% and met PQL restrictions. This was equivalent to between 0-9% of all parameters (mean 4%), which is considered to be an acceptable level of variability. Most RPDs greater than 25% were for nutrient parameters, with the exception of arsenic, cadmium, and cobalt which had one sample higher than threshold criteria, and manganese and uranium which had 4 and 2 samples over the threshold criteria, respectively. All other metals were below 25% RPD for all sites.

2.6.2 Periphyton, Benthic Invertebrates, and Fish Community

Plankton R Us has over twenty five years of experience with periphyton and plankton taxonomy and enumeration. QA/QC methods included:

- Random sub-sampling to minimize counting bias.
- Analyzing all samples by the same technician to ensure consistency.
- Replicate counts performed on random samples.
- 10-15% of samples were re-analyzed by a secondary technician to ensure accuracy.
- The usage of best management methods supported by scientific literature.

CARO Analytical Services has over twenty years of experience with microbiological analysis, general chemical analysis, and contaminated site testing of water, vegetation, tissue, soil and sediments. They

are a quality management system based on ISO 17025:2005, 'General Requirements for the Competence of Calibration and Testing Laboratories.' As part of their quality assurance and control, CARO routinely employs method blanks, sample duplicates, and laboratory controls samples per every 10 test samples. Results from quality control samples are analyzed to ensure they are within regulation.

Cordillera Consulting has over ten years experience in taxonomic analysis of benthic invertebrates from streams, rivers and lakes of western Canada. The following QA/QC procedures are followed by Cordillera Consulting:

- sorting efficiency – 10% of the whole sample number was resorted with an expectation of >90% efficiency in the sorting process;
- taxonomic efficiency – 10% of the identified sample vials were sent to another taxonomist. The two results were compared with simple statistics and the taxonomists discussed how best to correct their differences and make appropriate changes to the results; and
- taxonomic precision – an externally verified reference collection is maintained by Cordillera Consulting. Any new specimens are sent away to experts of that taxon and the collection is reviewed every five years.

North/South Consultants specializes in the analysis of ageing structures including otoliths and scales. All structures were read by an experienced ageing technician using a confidence index with five denominations ranging from very good to very poor. Independent second readings were made for 10% of randomly selected structures.

3 Results and Discussion

3.1 Sediment Quality

Raw sediment quality data can be found in Appendix B1.

3.1.1 Comparisons to CCME Sediment Quality Guidelines

Sediment quality results compared to CCME guidelines are summarized in Table 7. Out of the seven metals with CCME sediment quality guidelines, exceedances were observed for two: arsenic (As), and chromium (Cr). There were no exceedances recorded for mercury. Arsenic exceedances occurred at every station for the ISQG. Arsenic also exceeded the PEL at AQ05, AQ13, and AQREF1, which are in headwater areas adjacent to the deposit (AQ05, AQ13), or proximate to the Yukon River (AQREF1). The ISQG was exceeded for Chromium in the Kona tributary of Independence Creek (AQ13), as well in the Los Angeles Creek reference location (AQREF2). However, the PEL was not exceeded for chromium at any sites in the study area.

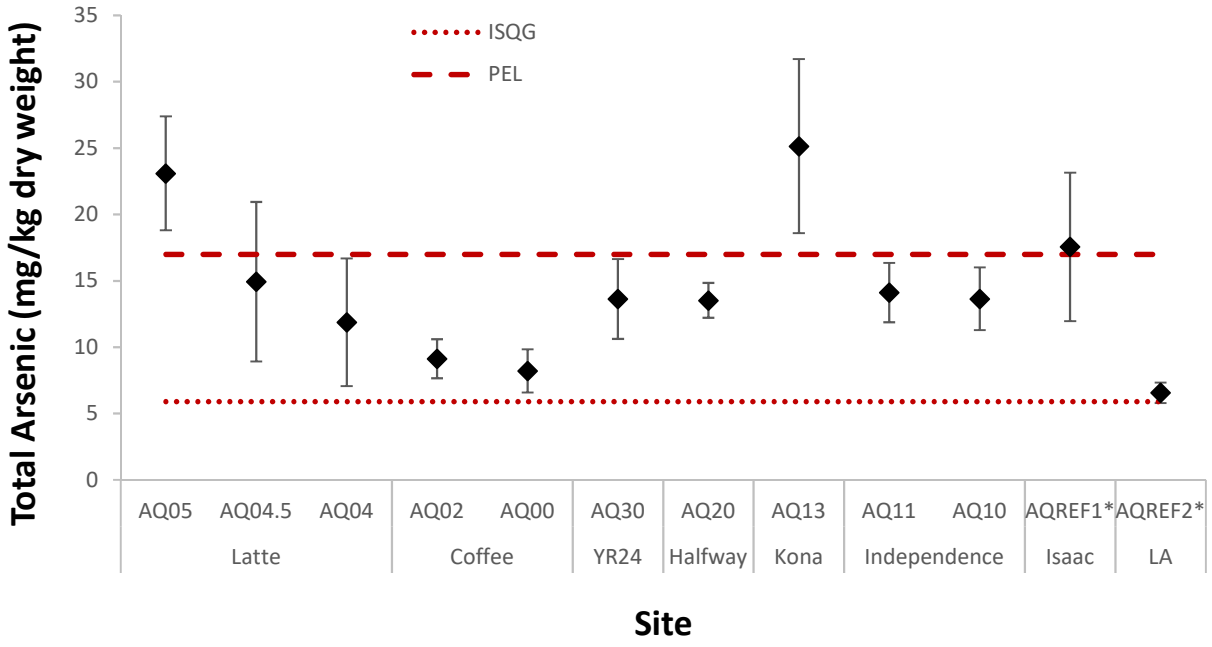
Table 7. Mean Sediment Quality Parameters Exceeding CCME Guidelines, Coffee Gold Project, 2014 - 2015

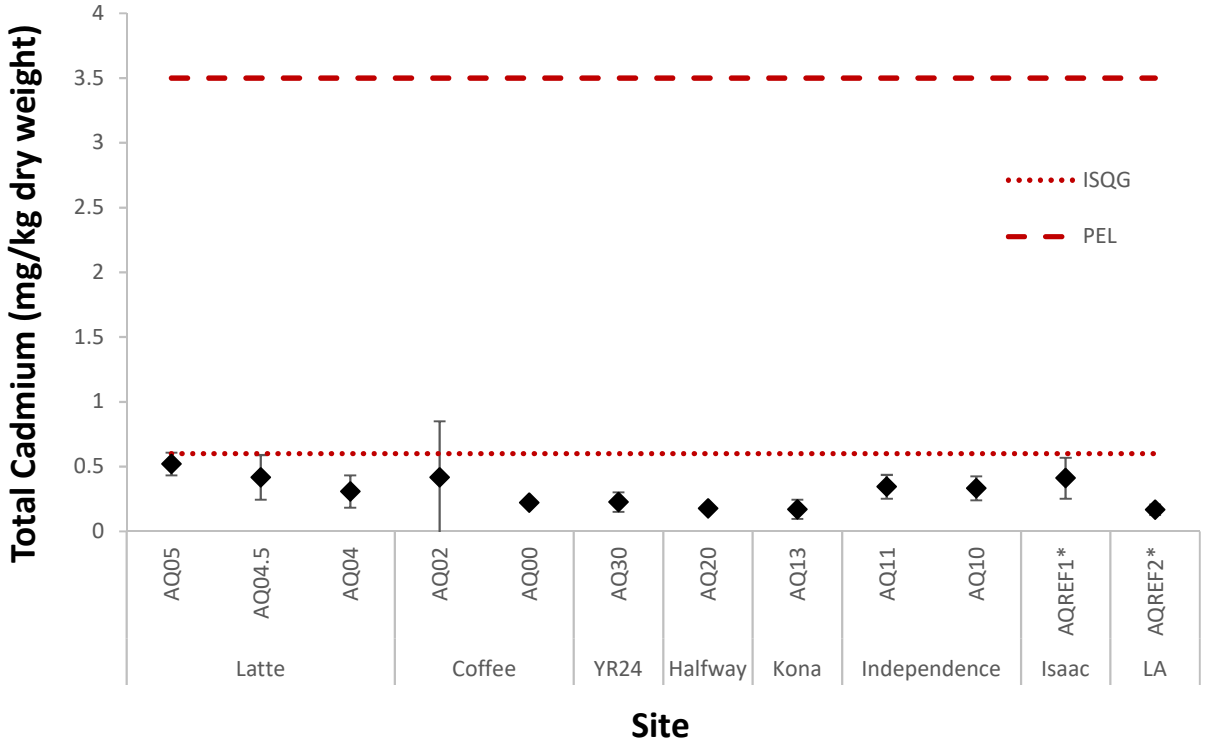
Watershed	Creek	Site	Interim Freshwater Sediment Quality Guideline (ISQG)	Probable Effects Level (PEL)
Coffee	Latte	AQ05	As	As
	Latte	AQ04.5	As	
	Latte	AQ04	As	-
	Coffee	AQ02	As	-
	Coffee	AQ00	As	-
Halfway	Halfway	AQ20	As	-
YR24	YR24	AQ30	As	-
Independence	Kona tributary	AQ13	As, Cr	As
	Independence	AQ11	As	-
	Independence	AQ10	As	-
Isaac	Isaac	AQREF1*	As	As
Los Angeles	Los Angeles	AQREF2*	As, Cr	-

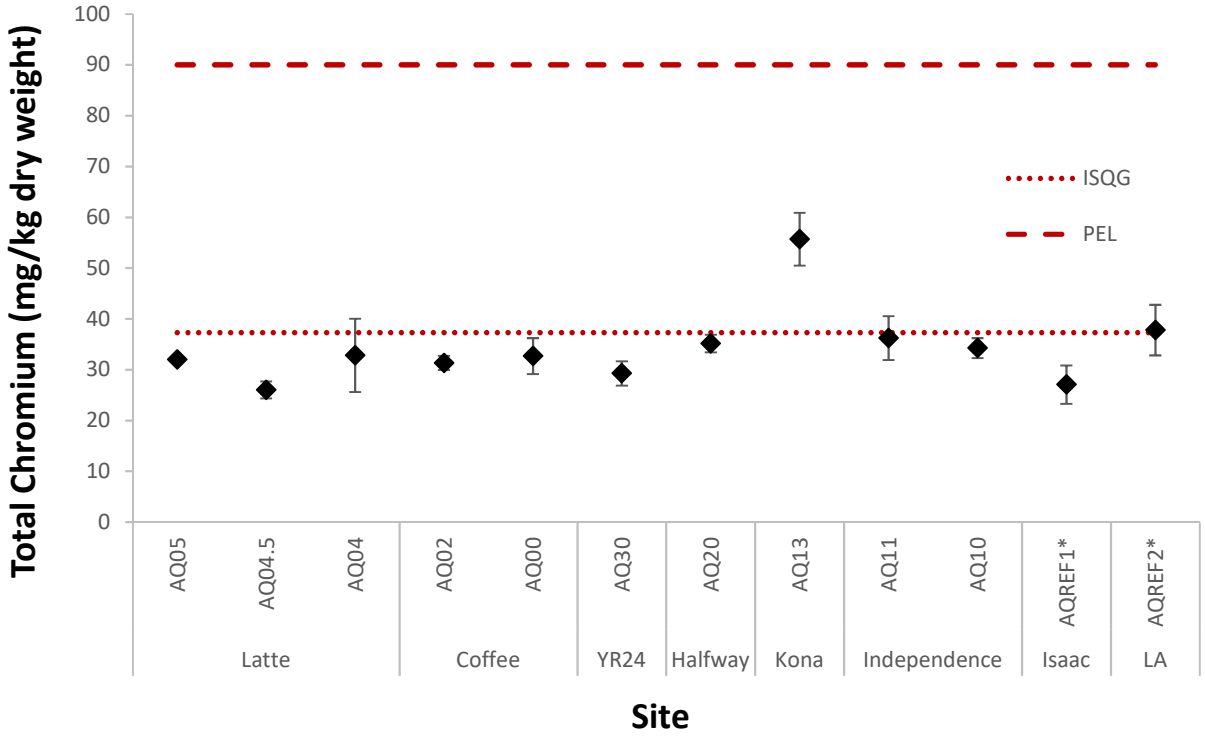
Dashes indicate sample mean did not exceed CCME guidelines

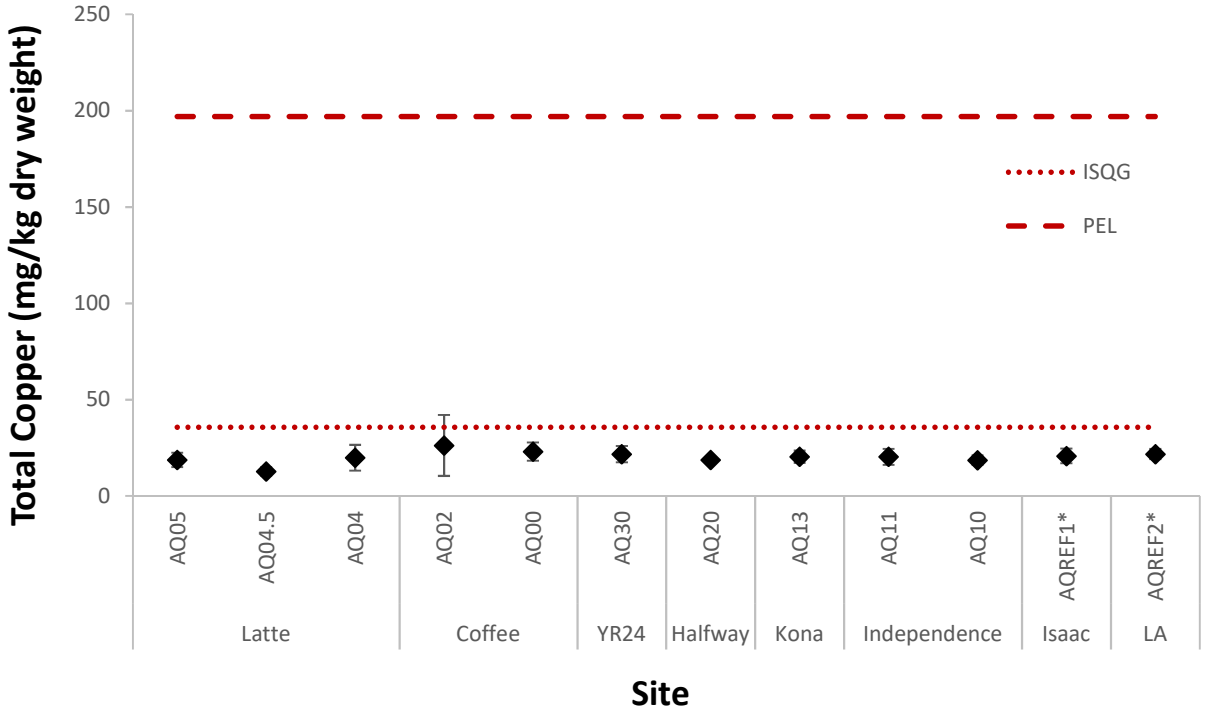
In addition to the mean exceedances outlined in Table 7, plots of mean sediment metal concentrations reveal that individual sediment samples exceeded CCME guidelines for cadmium, chromium, copper, and mercury at some aquatic sites (Figure 3). The majority of sample exceedances occurred in the Coffee Creek watershed, where exceedances of the CCME ISQG occurred at AQ00 (Cr), AQ02 (Cu, Cd), AQ04 (Cr, Hg), AQ04.5 (Cd), and two samples at AQ05 were equal to the mercury ISQG. In the Independence,

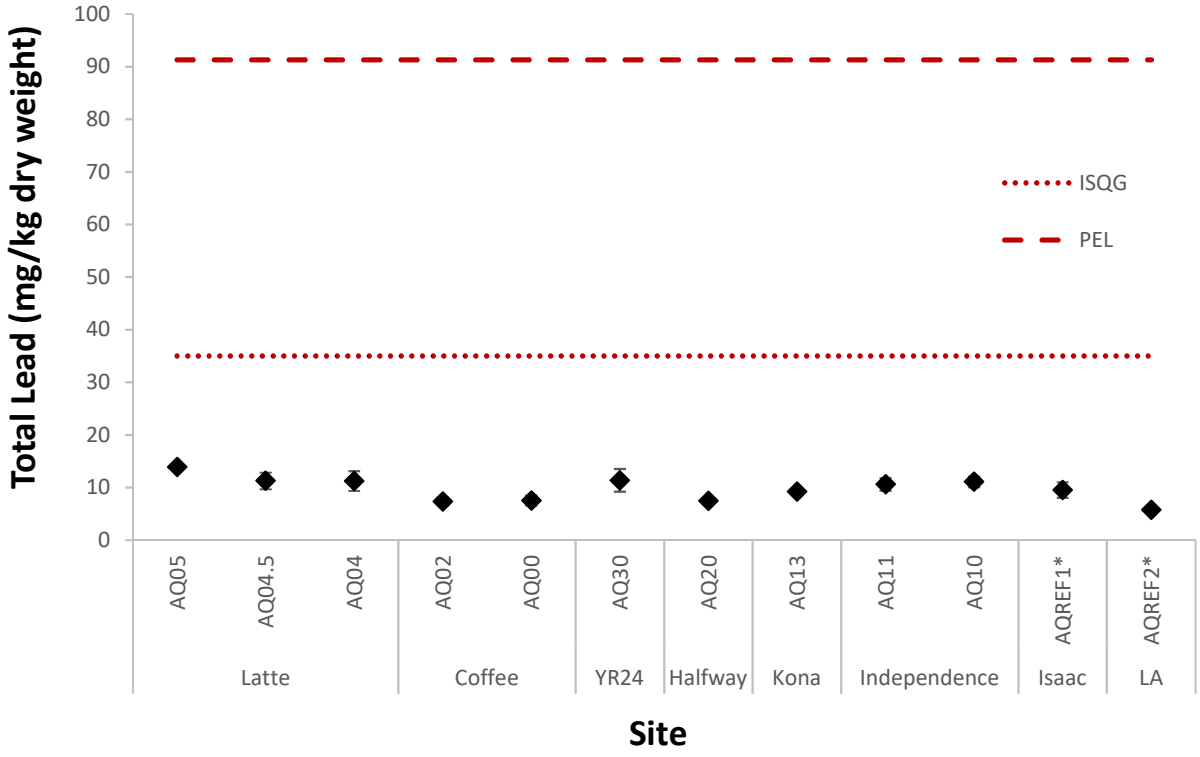
Halfway, YR24, and Los Angeles Creek watersheds, there were no individual exceedances for parameters other than the previously noted exceedances for chromium and arsenic. In the Isaac Creek reference site, there was an additional exceedance of the cadmium ISQG for one sample.

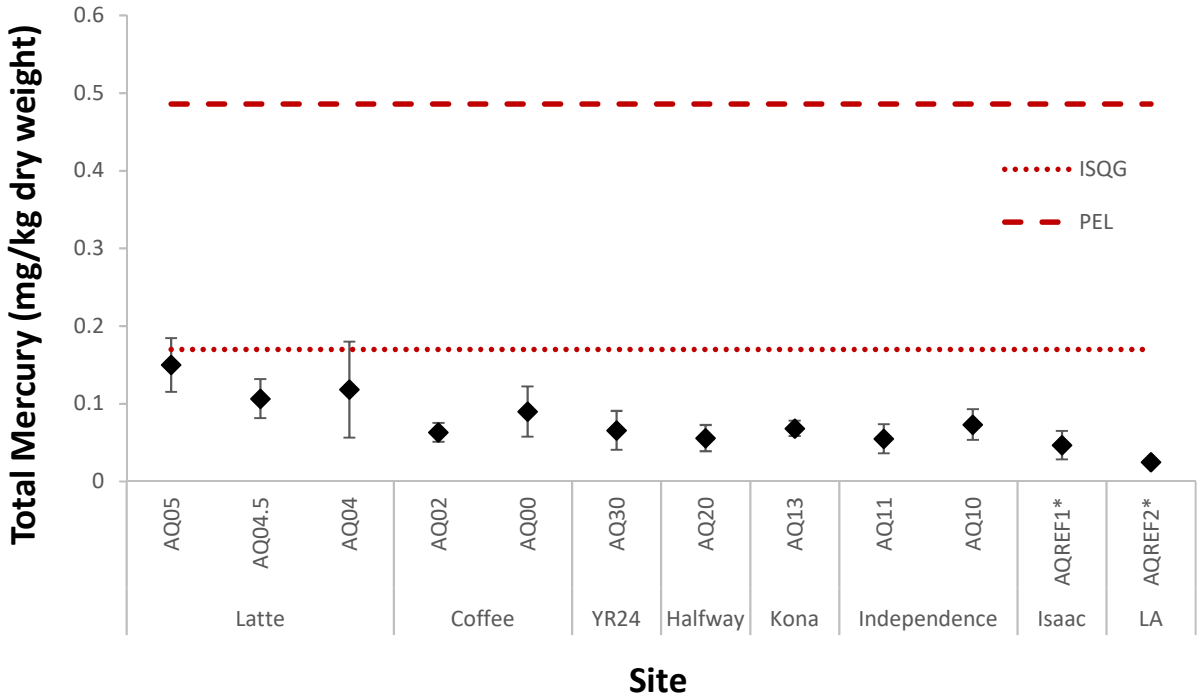





Total Chromium (mg/kg dry weight)
100
90
80
70
60
50
40
30
20
10
0
ISQG
PEL
AQ05
AQ04.5
AQ04
AQ02
AQ00
AQ30
AQ20
AQ13
AQ11
AQ10
AQREF1*
AQREF2*
Latte
Coffee
YR24
Halfway
Kona
Independence
Isaac
LA
Site


Total Copper (mg/kg dry weight)
250
200
150
100
50
0
ISQG
PEL
AQ05
AQ04.5
AQ04
AQ02
AQ00
AQ30
AQ20
AQ13
AQ11
AQ10
AQREF1*
AQREF2*
Latte
Coffee
YR24
Halfway
Kona
Independence
Isaac
LA
Site


Total Lead (mg/kg dry weight)
100
90
80
70
60
50
40
30
20
10
0
ISQG
PEL
AQ05
AQ04.5
AQ04
AQ02
AQ00
AQ30
AQ20
AQ13
AQ11
AQ10
AQREF1*
AQREF2*
Latte
Coffee
YR24
Halfway
Kona
Independence
Isaac
LA
Site


Total Mercury (mg/kg dry weight)
0.6
0.5
0.4
0.3
0.2
0.1
0
ISQG
PEL
AQ05
AQ04.5
AQ04
AQ02
AQ00
AQ30
AQ20
AQ13
AQ11
AQ10
AQREF1*
AQREF2*
Latte
Coffee
YR24
Halfway
Kona
Independence
Isaac
LA
Site

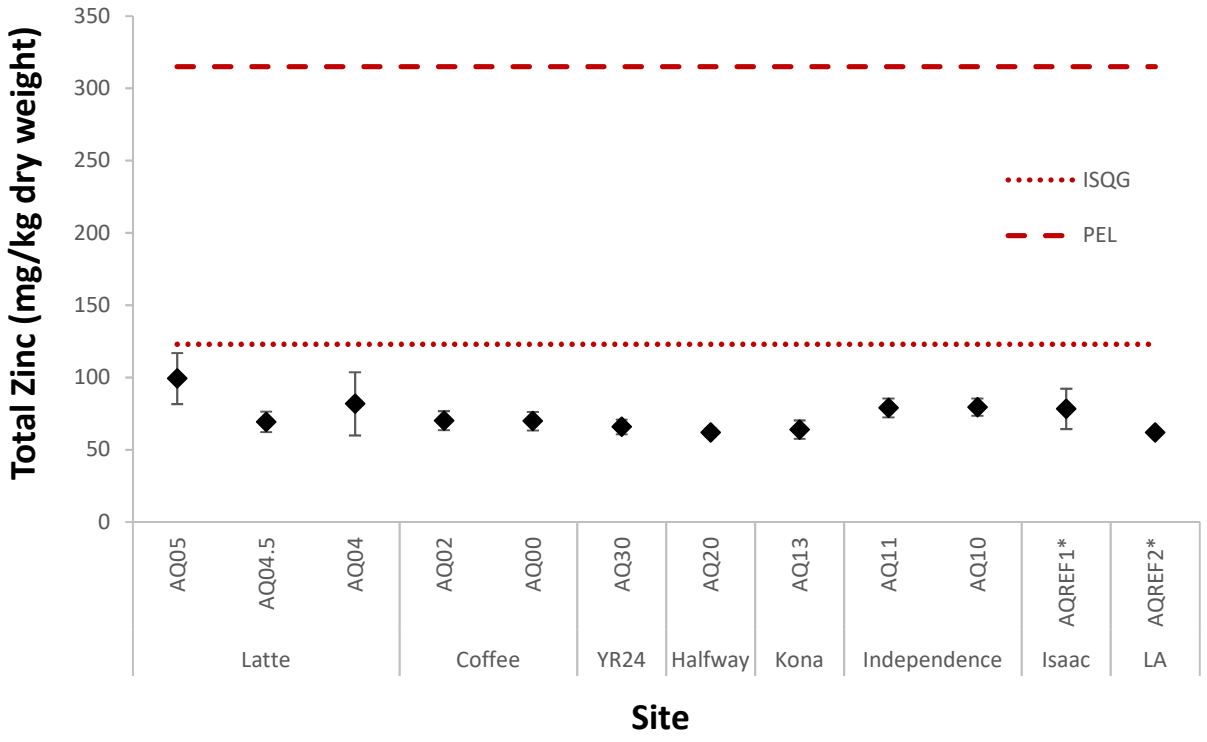


Figure 3. Range of Values (Mean and Standard Deviation) of Selected Total Metals Sediment Quality Parameters, Coffee Gold Project, 2014-2015. Dotted line is CCME Interim Sediment Quality Guideline (ISQG) and dashed line is CCME Probable Effects Level (PEL) guideline. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

3.1.2 Sediment Particle Size Distribution

Over 60% of the sediment particle sizes in the study area were less than 300 µm in diameter (Figure 4). In the Coffee Creek watershed, particle size demonstrated a general decreasing trend in a downstream direction. However, a similar pattern for sites in the Independence Creek watershed was not observed. Overall, sites in mainstem Coffee Creek (AQ00, AQ02), Isaac Creek, (AQREF1) and Halfway Creek (AQ20) were comprised of the finest sediment particles in the study area. The Los Angeles Creek reference site (AQREF2) had the lowest amount of fine sediment collected.

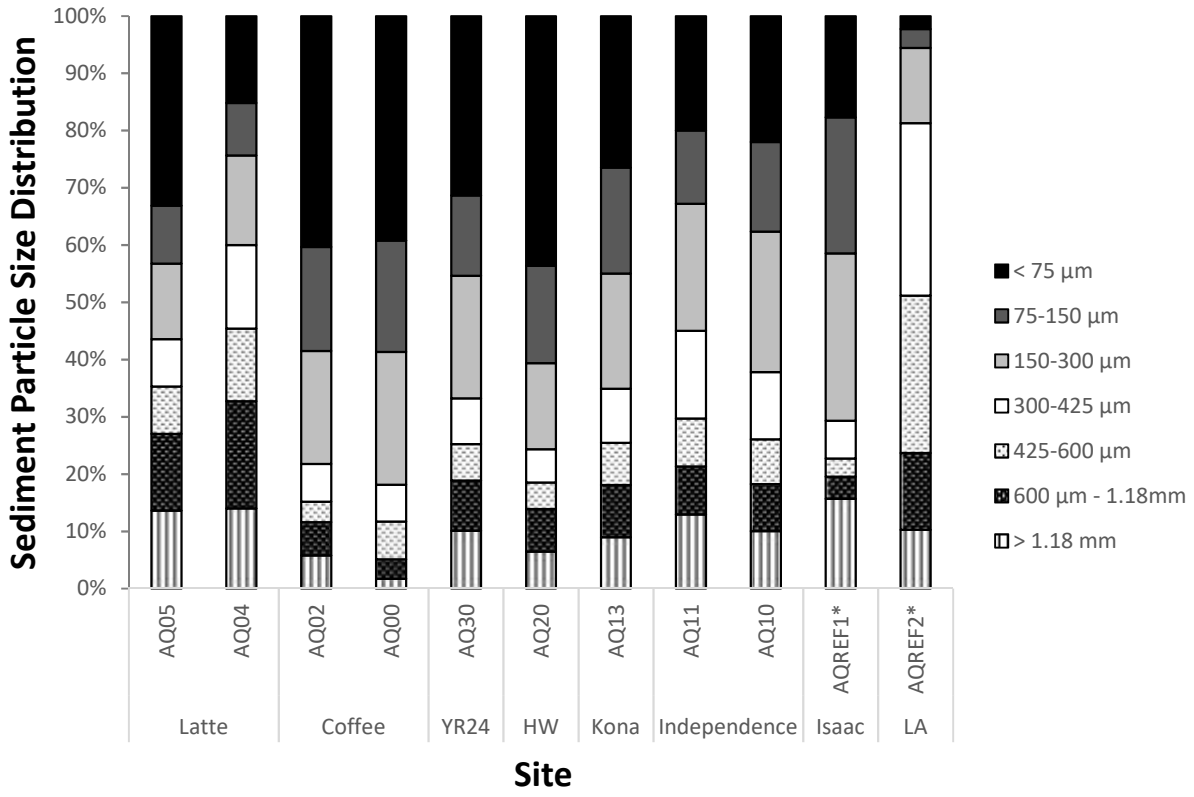


Figure 4. Sediment particle size distribution by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

3.2 Periphyton

3.2.1 Chlorophyll *a* and Periphyton Biomass

Mean chlorophyll *a* was very low for all sites, which is typical of northern aquatic habitats (Stantec 2011) (Figure 5). The lowest chlorophyll *a* value was observed in Independence Creek (mean=0.13 µg/cm^2), followed by Coffee Creek (mean=0.14 µg/cm^2), YR24 and Los Angeles Creeks (0.17 µg/cm^2), Halfway Creek (0.19 µg/cm^2), and then Isaac Creek (0.23 µg/cm^2).

Ash-free dry mass (AFDM) values ranged from 0.38 - 1.07 mg/cm^2, with the highest values observed in Halfway Creek (AQ20) and Los Angeles Creek (AQREF2). The remaining sites were in a similar range and did not display any strong longitudinal trends. The relationship between chlorophyll *a* and ash-free periphyton mass was not significant (Linear regression, R^2=0.17, P=0.18). Differences in chlorophyll *a* content may be due to varying light conditions, nutrient availability, and taxonomy, which result in different proportions of photosynthetic:non-photosynthetic organisms which comprise periphyton (Barbour *et al.*

1999). However, given the remote location of the project, surpassed holding times for chlorophyll *a* analyses may also have affected the accuracy of results.

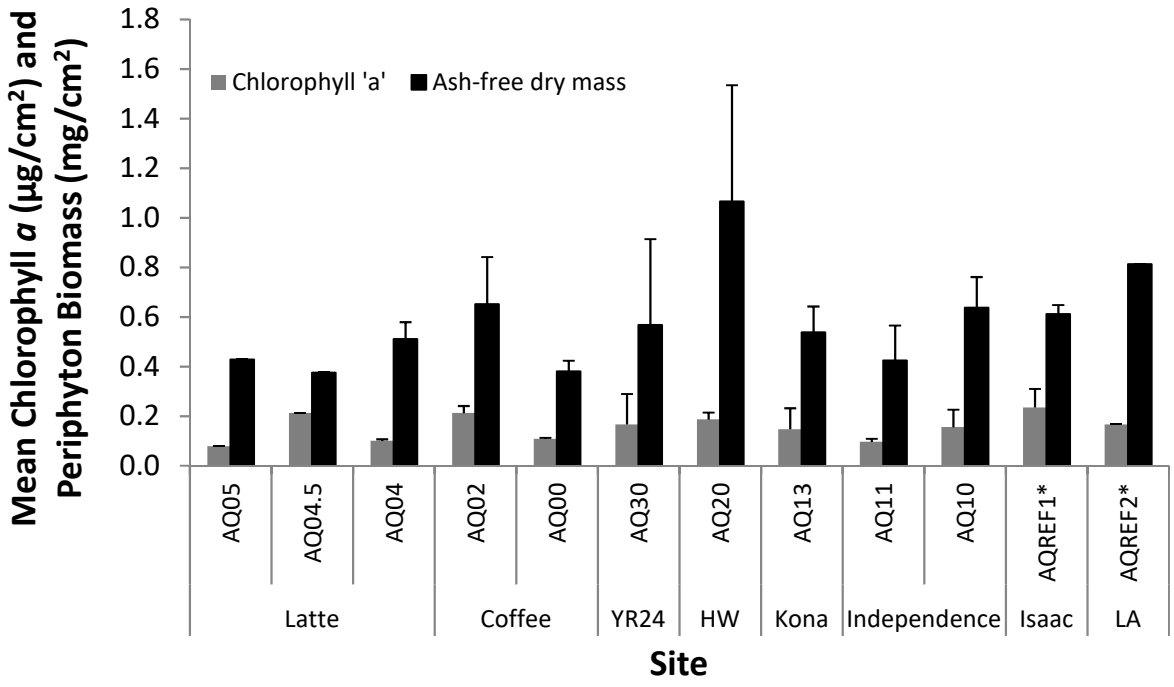


Figure 5. Mean Chlorophyll *a* and periphyton ash-free dry mass by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, and LA= Los Angeles Creek. Bars represent standard deviation and (*) indicates study reference sites.

3.2.2 Periphyton Density

Mean periphyton density was highest in YR24 (497,737 cells/cm^2) and lowest in upper Latte Creek (68,802 cells/cm^2, Figure 6). Within the Coffee Creek watershed, the highest periphyton density was observed in lower Latte Creek (AQ04), with density decreasing longitudinally downstream. Within the Independence Creek watershed, periphyton density was relatively low and similar among all three sites. Periphyton density was intermediate at the Isaac Creek reference site in comparison to AQ30 and AQ20, which are both similarly located adjacent to the Yukon River. The Los Angeles Creek reference site displayed a low periphyton density value that was comparable to densities observed in both Independence and Coffee Creeks.

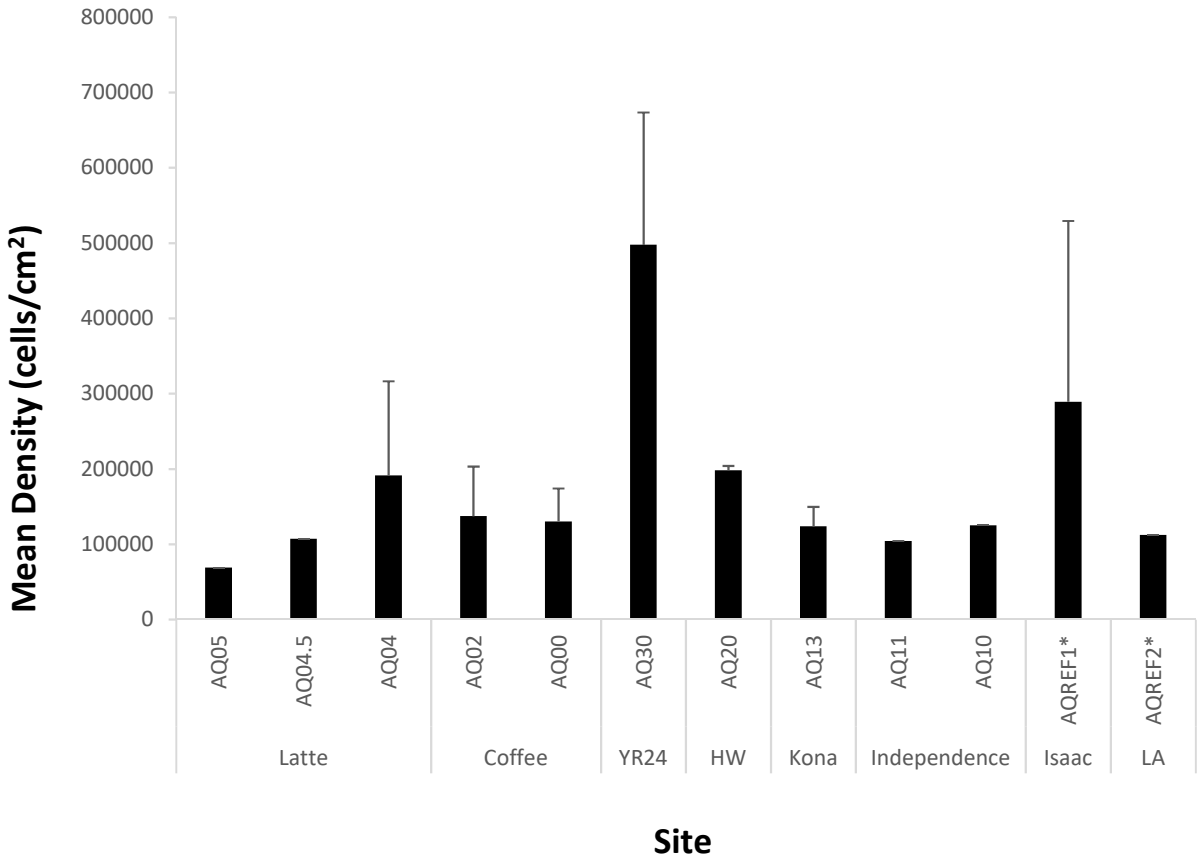


Figure 6. Mean periphyton density by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, and LA= Los Angeles Creek. Bars represent standard deviation and (*) indicates study reference sites.

3.2.3 Periphyton Community Composition

Blue-green algae (Cyanophyta) was the most dominant algal group in the study area (Figure 7), making up approximately 80% of the overall community composition. After blue-green algae, diatoms were the second most dominant group (17%), followed by small percentages of green algae (chlorophyta, 3%). Red algae was not identified at sites within the local study area, but was present (2%) at the Isaac Creek reference site. Within watersheds, blue-green algae tended to dominate at higher elevation sites, whereas higher proportions of diatoms were present further downstream. Sites AQ20 and AQ30 were more similar to higher elevation sites, despite being adjacent to the Yukon River. Of note was the presence of *Didymosphenia geminata* confirmed in Isaac Creek and at AQ10 in Independence Creek in 2014, which is a large diatom that has become increasingly prolific in BC and Yukon in recent years, and is commonly referred to as ‘rock snot’ (YISC, 2014).

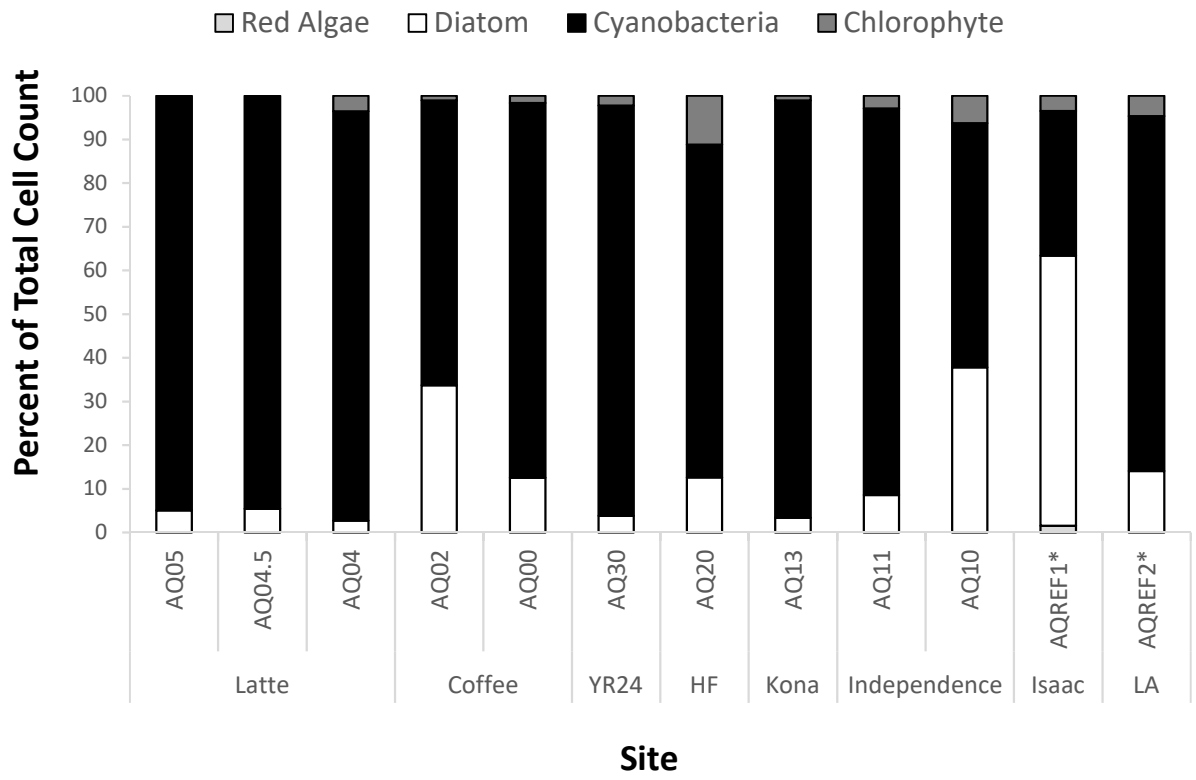


Figure 7. Mean relative cell densities of periphyton communities by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

3.2.4 Periphyton Taxonomic Richness and Biodiversity

Mean taxonomic richness in the Coffee Gold study area was overall low, ranging from 10-14 taxonomic groups (Figure 8). Richness was highest at sites in upper Latte Creek (AQ04.5), lower Coffee Creek (AQ00), lower Independence Creek (AQ10), and the two reference sites, with each site having 13-14 taxa present. Richness was lowest in YR24 and in the Kona tributary of Independence Creek. There was little indication of any trends in taxonomic richness in the study area, as mean richness values were fairly similar at all sites and substantial variability between years was observed.

Patterns of biodiversity were similar to what was noted for species richness, with a significant correlation between the two indices (Linear regression, R^2=0.45, P=0.02). Mean biodiversity ranged from 0.99 at AQ05 to 1.74 at AQ10. By watershed, Coffee Creek displayed the lowest overall mean biodiversity (1.31), followed by Independence Creek and YR24 (1.41), Los Angeles Creek (1.59), Halfway Creek (1.67), and then Isaac Creek (1.70).

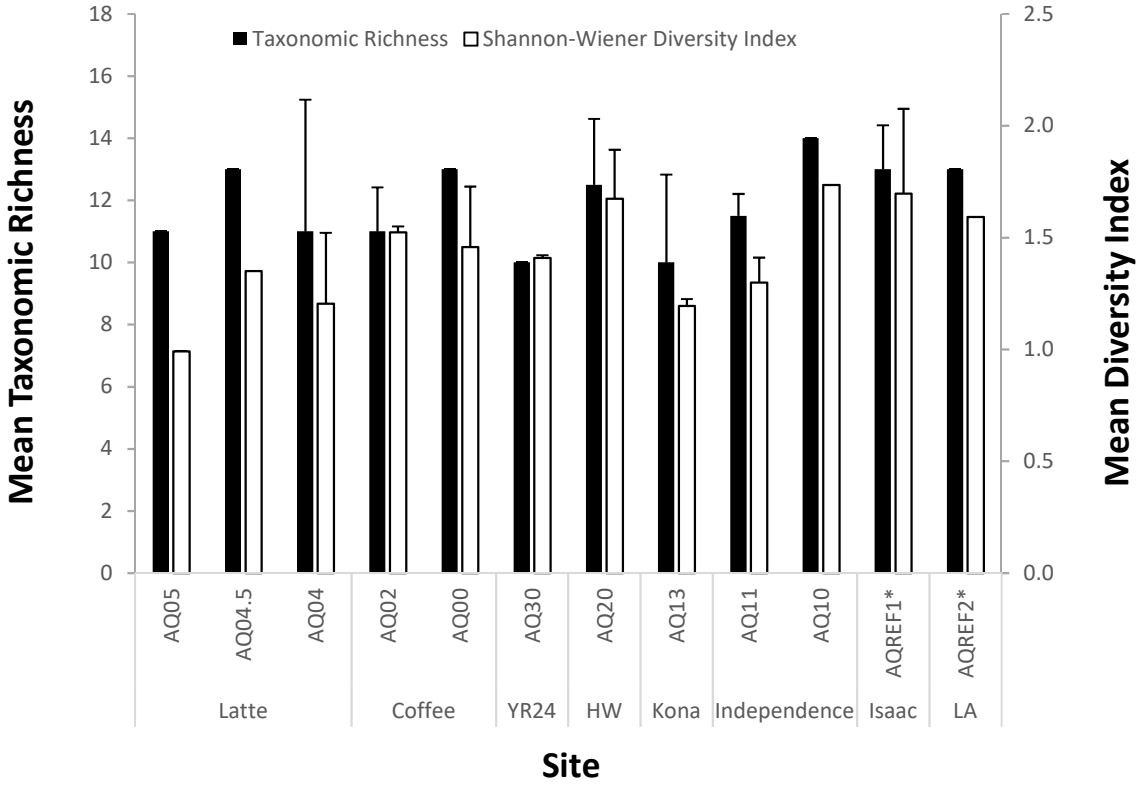


Figure 8. Mean Taxonomic Richness and Shannon-Wiener Diversity Index of periphyton communities by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, and LA= Los Angeles Creek. Bars represent standard deviation and (*) indicates study reference sites.

3.3 Benthic Invertebrates

3.3.1 Benthic Invertebrate Abundance

Mean total abundance of benthic invertebrates ranged from 247 individuals per kick-net to 3885 individuals per kick-net in the project study area (Figure 9). Overall, Los Angeles Creek displayed the highest total abundance (3210), followed by Independence Creek (2092), YR24 (1291), Coffee Creek (762), Halfway Creek (466), and then Isaac Creek (306). Within watersheds with multiple sites, total abundance generally increased in an upstream direction. Site AQ10 in mainstem Independence Creek had a notably high mean abundance of benthic invertebrates (3885/kick-net).

Ephemeroptera Plecoptera Trichoptera (EPT) abundances within the study area demonstrated similar patterns to overall abundance, with a significant relationship observed between the two indices (Linear regression, R^2=0.62, P<0.01). EPT abundance was highest at AQREF2 (1880 EPT organisms/kick-net), lowest at the Isaac Creek reference site (90 EPT organisms/kick-net), and showed no strong longitudinal

patterns within watersheds. Some sites had high between-year variability, such as at AQ10 in lower Independence Creek (standard deviation=838).

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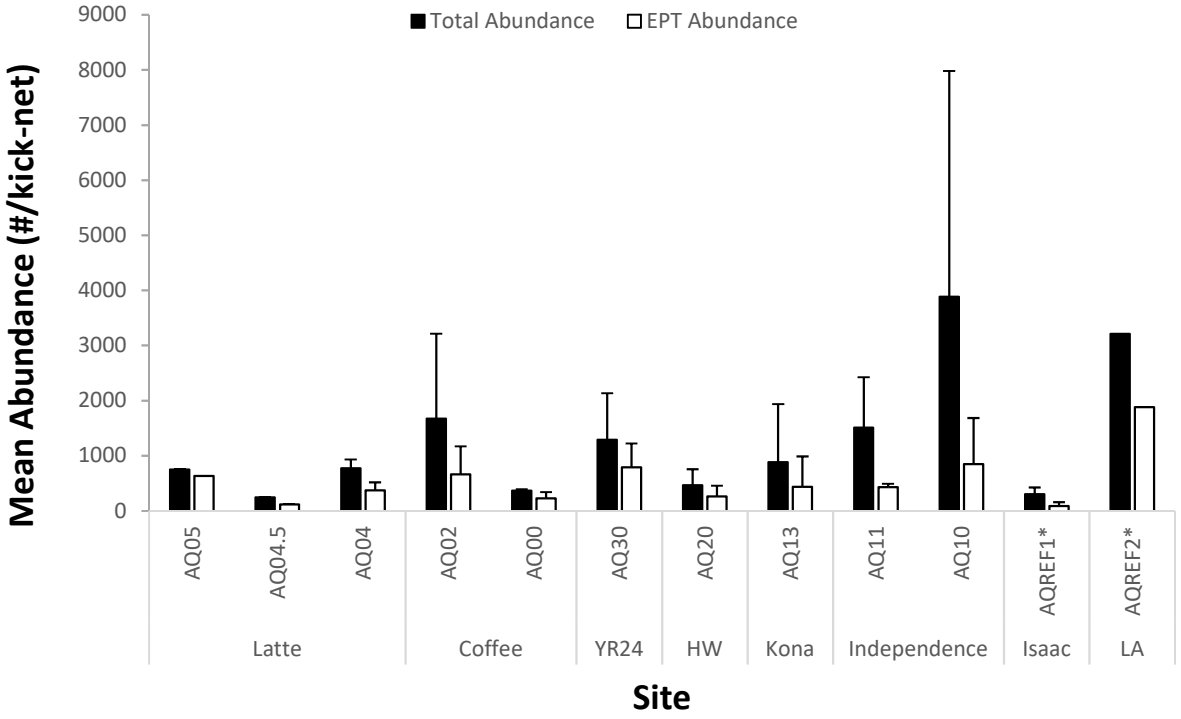

Figure 9. Benthic invertebrate total and Ephemeroptera Plecoptera Trichoptera (EPT) mean abundance by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, and LA= Los Angeles Creek. Bars represent standard deviation and (*) indicates study reference sites.

3.3.2 Benthic Invertebrate Community Composition

Dipterans were the most dominant benthic invertebrate group in the project study area, making up approximately 50% of the overall community composition (Figure 10). The second and third most dominant groups were the mayflies (*Ephemeroptera*) and stoneflies (*Plecoptera*), which contributed approximately 26% and 21% to the overall community composition, respectively. Small percentages of ringed worms (Annelids), and caddisflies (*Trichoptera*) were also present at the majority of sites. The Isaac Creek reference site had the highest percentage of Dipterans and the lowest relative contribution from the “pollution sensitive” EPT organisms. Within the multi-site watersheds (Coffee and Independence Creeks), EPT organisms typically dominated sites higher in the watershed, whereas Dipteran species dominated at larger creek sites further downstream.

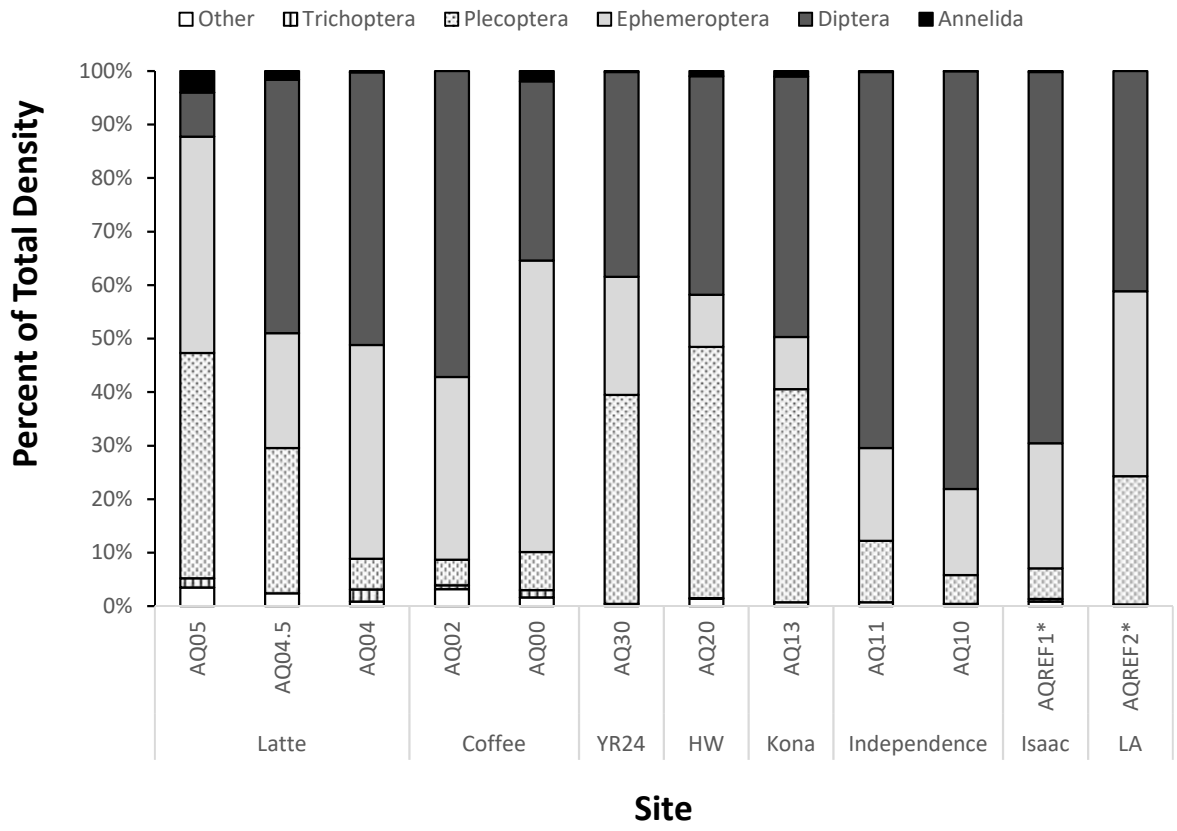

Figure 10. Relative densities of benthic invertebrate communities by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

3.3.3 Benthic Invertebrate Taxonomic Richness, Biodiversity, and Evenness:

Benthic invertebrate taxonomic richness was highest at AQ02 in the Coffee Creek watershed (34 taxa), and lowest at the Independence Creek Kona tributary (18 taxa, Figure 11). There were no apparent within-watershed patterns for taxonomic richness, although the mainstem sites on Independence Creek displayed higher richness values in comparison to AQ13 in the headwaters. Both reference sites displayed intermediate richness values (21-26).

Simpson's diversity values displayed similar patterns to those observed for taxonomic richness (Figure 12). Sites AQ04.5 and AQ11 demonstrated the highest and lowest values, respectively. At the watershed-level, Los Angeles Creek supported the highest diversity values (0.87), sites in YR24, Halfway Creek, and Coffee Creek supported intermediate values (0.78-0.86), and sites in Independence Creek contained the lowest diversity value (mean=0.75).

Simpson's evenness ranged from 0.15- 0.46, with the lowest and highest sites also being the two that were positioned closest together in upper Latte Creek (Figure 12). Generally, evenness decreased in a downstream direction within the Coffee and Independence watersheds.

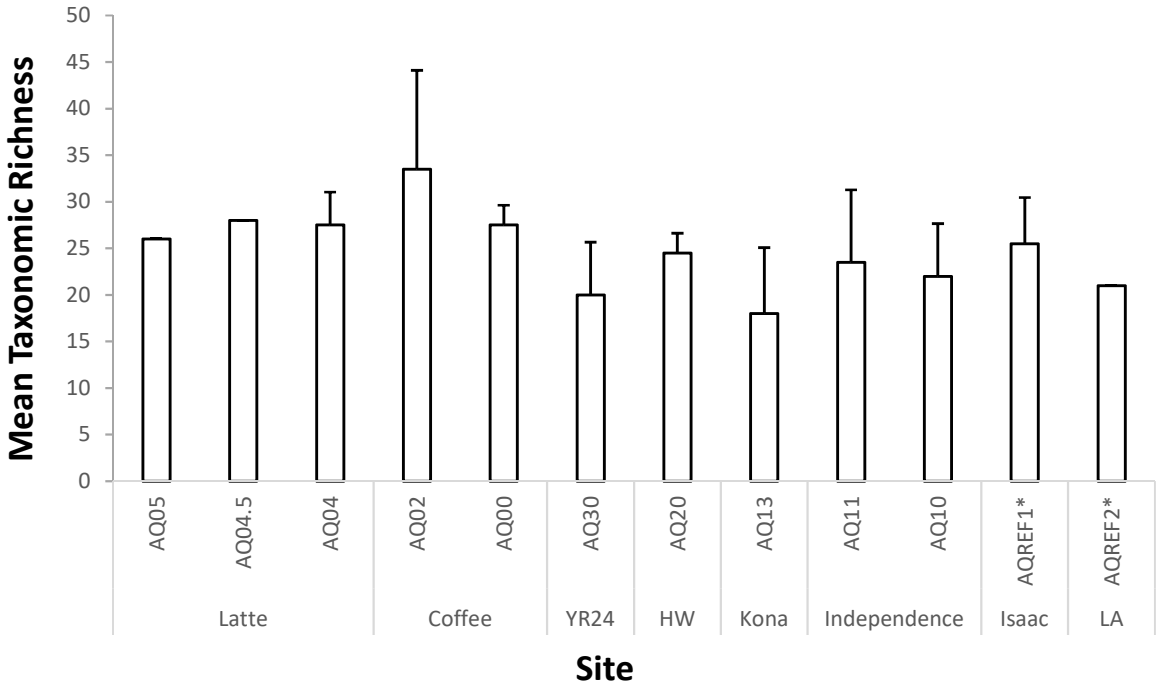

Figure 11. Mean Taxonomic Richness of benthic invertebrate communities by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

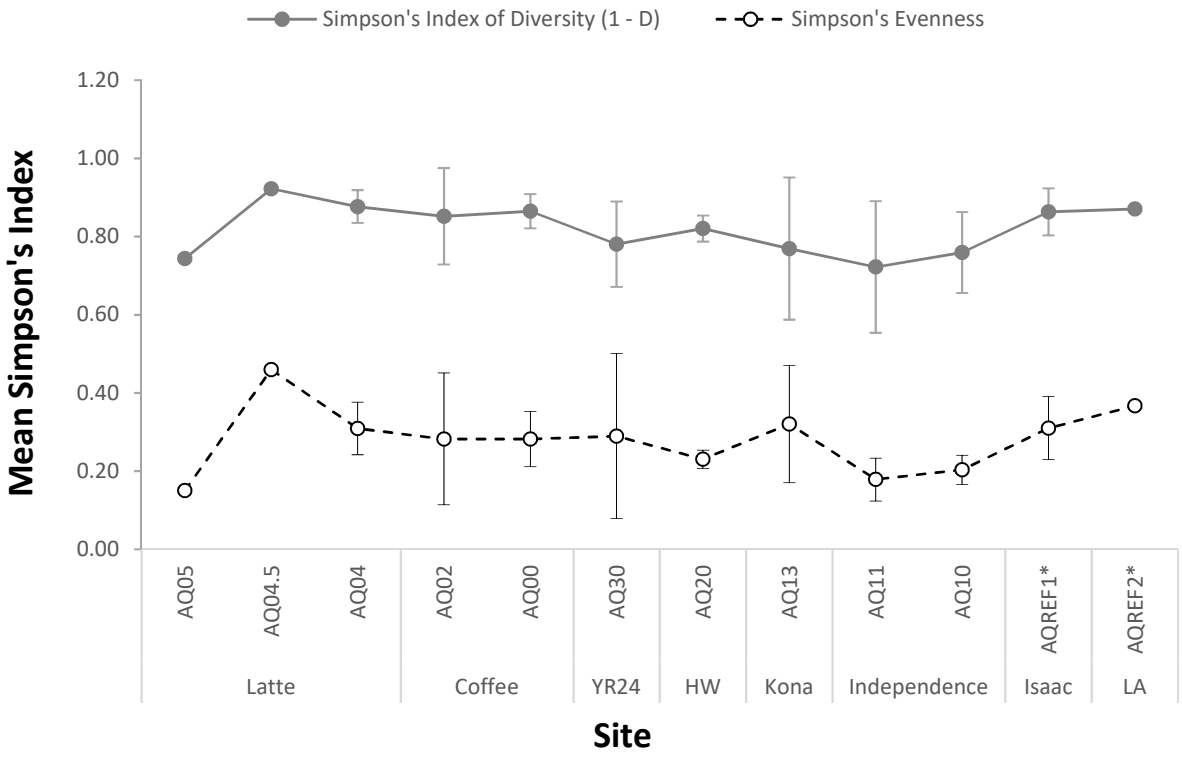

Figure 12. Mean Simpson's Diversity and Evenness Indices of benthic invertebrate communities by site, Coffee Gold Project, 2014-2015. Sites are grouped by watershed including: Latte= Latte Creek, Coffee= sites on mainstem Coffee Creek, YR24= Unnamed tributary between Coffee and Halfway Creeks, HW= Halfway Creek, Kona= Kona Tributary in the Independence Creek watershed, Independence= sites on mainstem Independence Creek, Isaac= Isaac Creek, LA= Los Angeles Creek, and (*) indicates study reference sites.

3.3.4 CABIN

CABIN analyses are summarized in site assessment reports (Appendix D2). The BEAST prediction results show that based on the benthic invertebrate communities, the majority of Coffee Gold study area sites belong to Group 1 (probabilities: 50 – 95%) with the exception of site AQ05 which belongs to Group 2 (probability: 48%). The Bray-Curtis analysis indicated that of the 12 sites assessed in CABIN, site AQ05 in upper Latte Creek and AQ13 in upper Kona were most similar in community structure to reference condition (0.81-0.84). However, all sites in the Coffee study area and reference areas were highly dissimilar from reference conditions (range 0.81-1). The RIVPACS tools assesses sites using the ratio of observed to expected (O:E) score, where sites with O:E ratios close to 1 are in good condition. All sites were close to the value of 1, with values ranging from 1.04-1.09 (Table 8).

Table 8. RIVPACS Observed/Expected Taxa Ratios

Site	Year	Description	Result
AQ00	2014	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
	2015	RIVPACS : Expected taxa P>0.70	0.96
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.05**
AQ02	2014	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.05**
	2015	RIVPACS : Expected taxa P>0.70	0.96
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.05**
AQ04	2014	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
	2015	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.07**
AQ05	2014	RIVPACS : Expected taxa P>0.70	0.96
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.04**
AQ04.5	2015	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.05**
AQ10	2014	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
	2015	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
AQ11	2014	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.05**

Site	Year	Description	Result
AQ11	2015	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
AQ13	**2014**	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
	2015	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.07**
AQ20	2014	RIVPACS : Expected taxa P>0.70	0.92
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.08**
	2015	RIVPACS : Expected taxa P>0.70	0.92
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.09**
AQ30	2014	RIVPACS : Expected taxa P>0.70	0.92
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.08**
	2015	RIVPACS : Expected taxa P>0.70	0.92
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.08**
AQREF1	2014	RIVPACS : Expected taxa P>0.70	0.94
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
	2015	RIVPACS : Expected taxa P>0.70	0.95
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.06**
AQREF2	**2015**	RIVPACS : Expected taxa P>0.70	0.92
		RIVPACS : Observed taxa P>0.70	1.00
		RIVPACS : O:E (p > 0.7)	**1.09**

The BEAST site assessment graphs display each test site in relation to the reference sites of the Yukon 2013 reference model. The degree of deviation from reference condition can indicate the severity of impairment. The different levels of deviation range in order from (1) reference condition, (2) mildly divergent, (3) divergent, and (4) highly divergent. Of the twelve sites tested, most sites were in the mildly divergent category, which indicates potential anthropogenic stress. Some of the stress ratings differed for each site by year, with 2015 results typically having a more stressed rating. One exception was site AQ13, which was considered unstressed (reference condition) in 2015 and divergent from reference

conditions in 2014. Highly divergent years were observed in 2015 at sites AQ10, AQ11, AQ30, and AQREF2.

3.4 Fish Habitat

A total of 17 sites were assessed for fish habitat quality around the study area (Figure 1, Table 9). Site-specific habitat information, site photos and *in situ* water quality data is included as Appendix E1. Fish habitat quality was highest in the mainstems of Coffee and Independence Creeks due to the presence of a wide variety of habitat types available (e.g., deep pools, side channels, slow moving riffles), and ample in-stream habitat cover (e.g., woody debris, undercut banks), that could potentially support a range of fish species throughout their various life history activities. Coffee Creek was the largest watercourse with the primary mainstem channel ranging from 15-22m wide, and numerous deep pools observed (>1.5m). Independence Creek was the second largest watercourse, with mean channel widths of 12m and 23m at Sites AQ10 and AQ11, respectively.

Tributaries of Coffee and Independence Creeks were relatively smaller than the creek mainstems (mean widths from 4-6m and 2-3m, respectively), and contained better quality habitat in the lowermost reaches (e.g., pool habitat, gravel substrates, lower stream gradients). Good Arctic grayling habitat was available in the lower reaches of Latte Creek due to the frequency of substantial pool habitat. Site AQ12 in the lower Kona tributary had much lower habitat quality than the mainstem of Independence Creek as water depths were low, and there were few pools noted for supporting fish feeding or rearing. Sites in the upper watersheds of both Latte Creek and Kona Tributary were of poorer habitat quality, as they contained higher gradient (means=7-11%), cascade-pool or step-pool segments dominated by larger cobble or boulder substrates, and little to no gravels. During the habitat mapping of Latte Creek, several hindrances to upstream fish passage were noted in the upper watershed due to steep natural drops. No permanent barriers to fish migration were noted.

Additional fish habitat surveying was completed in 2015 for a Latte Creek tributary (Tributary “C”) that overlaps with the south proposed waste rock storage facility. The watercourse was a small (mean channel width=0.82m), shallow (mean channel depth=0.26m), medium gradient (5-10%) channel dominated by gravel and fine substrates. Natural obstructions to fish passage were observed, such as sudden steep drops, but no permanent barriers to fish migration were noted. Supplementary hydrometric and water quality data for this tributary indicates that the streamflow is often groundwater dominated and may occasionally lose its surficial connection to mainstem Latte Creek (*pers. comm*., Lorax Environmental 2015). Thus, the noted habitat constraints suggest low suitability for Arctic grayling, especially at distances further from mainstem Latte Creek.

Halfway Creek and YR24 were relatively smaller watercourses, with mean widths of 4m at sites proximate to the Yukon River (AQ20, AQ30), decreasing to 2-2.5m widths in the headwaters (AQ21, AQ31). In Halfway Creek, there was marginal fish habitat for Arctic grayling available in the lower watershed (AQ20). YR24 was even smaller and steeper (8%) than Halfway Creek, with little to no pool habitat observed for fish rearing at the downstream site (e.g. water depths were generally less than 20cm). Habitat quality decreased in the upper watersheds due to steeper (means=10-11%), boulder-dominated cascade-pool segments. In September 2015, a high gradient (30%) barrier to fish passage was

documented immediately upstream of site AQ31, and downstream of the proposed waste rock storage facility (Figure 13).

Figure 13. High gradient (>30%) barrier to fish passage, upper YR24, September 2015

The Isaac Creek reference site was smaller and shallower than both Independence and Coffee Creeks, with a mean channel width of 10m, and fewer deep pools (>1m) noted. The site was low gradient, with moderate fish cover including small woody debris, undercut banks, overhanging vegetation and deep pools. The site was differentiated by its close proximity to the Yukon River and the potential for backwatering at the creek mouth. It had the highest percentage of fine substrate in the project study area, and also the most turbid water observed. Due to the shallow depths and sandy substrates, the site provided moderate habitat potential for juvenile Arctic grayling rearing, and low habitat potential for supporting adult Arctic grayling summer feeding.

The Los Angeles Creek reference site was established as an additional reference site in 2015 in order to document habitat more comparable with the range of habitats present at potential mine study sites. In addition, the site is well away from the influence of the Yukon River located 6km downstream. The site was low gradient and had moderate fish cover including large woody debris, undercut banks, and some deep pools providing excellent rearing/feeding habitat and potentially also overwintering. The site provided good potential for Arctic grayling spawning habitat with pockets of fine gravel present.

Table 9. Fish Habitat Characteristics, Coffee Gold Project, 2014 - 2015

Watershed	Creek	Site	Mean channel width (m)	Mean gradient (%)	Morphology	Substrate (%)		Cover			% Gravel	Deep pools >1m (Y/N)
						Dominant	Sub-dominant	Overall	Dominant	Sub-dominant		
Coffee	Latte	AQ06	4.00	11	SPb	65% B	30% C	A	B	OV	T	N
	Latte	AQ05	3.81	7	CPc-W	50 % C	40% B	M	B	OV	T	N
	Latte	AQ04.5	2.83	3	RPb	40% B	25% C	M	SWD,B	U, OV	5	N
	Latte	AQ04	5.86	2	RPc-W	45% C	45% G	M	LWD	OV, SWD	45	N
	Coffee	AQ02[1]	18.43	2	Rpg-W	45% G	35% C	A	SWD, LWD	U	45	Y
	Coffee	AQ01	22.08	2	RPg-W	45% G	40% C	M	SWD, LWD	U, OV	45	Y
	Coffee	AQ00[1]	14.90	1	PRg-W	60% G	20% F, 20% C	M	LWD, DP	SWD, OV	60	Y
Halfway	Halfway	AQ21	2.47	10	CPb	50% B	40% C	M	B	U	0	N
	Halfway	AQ20	4.03	2	RPc-W	45% C	35% G	M	LWD	SWD, B, U, OV	35	N
YR24	YR24	AQ30	4.20	8	CPc-W	50% C	35% B	M	B	SWD, LWD, U, OV	0	N
	YR24	AQ31	1.87	11	Cpb	40% B	40% C	M	B	OV	10	N
Independence	Kona tributary	AQ13	2.23	8	SPb	70% B	15% C	A	B	LWD, OV	T	N
	Kona tributary	AQ12	3.05	1	RPg-W	70% G	10% F	A	LWD, OV	SWD, U,DP	70	N
	Independence	AQ10	12.21	2	Rpg-W	50% G	30% C	A	LWD	SWD, U, OV	50	Y
	Independence	AQ11	23.23	2	RPg-W	40% G	30% C	M	LWD	SWD, B, U, DP, OV	40	Y
Isaac	Isaac	AQREF1*	9.75	1	RPg-W	40% G	40% F	M	SWD	LWD, U, OV	40	Y
Los Angeles	Los Angeles	AQREF2*	6.80	1	Rpg-W	70% C	20% F	M	LWD	SWD, U, DP	10	Y

*Notes: Morphology Codes: RP=Riffle Pool, CP=Cascade Pool, SP=Step Pool, sub-codes c=cobble, b=boulder, g=gravel, and "W"=functional large woody debris; Substrate Codes: B=Boulder, C=Cobble, G=Gravel, F=Fines; Cover Codes: Overall – A: Abundant >20%, M: Moderate 5-20%; Dominant/Sub-dominant -OV=Overhanging vegetation, SWD=small woody debris, LWD=large woody debris, B=boulder, U=undercut bank, DP=Deep pool; % Gravel T=Trace; *Reference Site; [1]Secondary side channel not included in total*

Stream temperatures:

Mean stream temperatures in the Coffee Gold study area did not rise above 5°C in any of the creeks, with the exception of mainstem Coffee Creek. The highest temperatures observed in mainstem Coffee Creek were during August, where mean and maximum daily temperatures approached 8°C and 11°C, respectively. However, based on other seasonal site trends it is likely that Coffee Creek temperatures peaked during July, when the logger was dislodged and not consistently recording water temperatures. Unreliable temperature data was removed during data screening and is not presented here (see methods section 2.5.4).

Latte Creek and Halfway Creek had similar temperature trends, with peak mean stream temperatures just below 5°C noted in July. YR24 was colder than Halfway and Latte Creeks during the period of record. The temperature record for the Kona Tributary had extended periods when the logger was likely out of water, and as a result the monthly average temperature is based on only six days of data near the end of June (June 22nd to 27th), and on fifteen days each for July and September. Reliable data were not available for August. The available record for the Kona tributary suggests that this site is generally colder than the other creeks.

Where the temperature record included the winter months, the onset of freezing temperatures generally occurred in mid to late October. In the Kona tributary freezing started in early October.

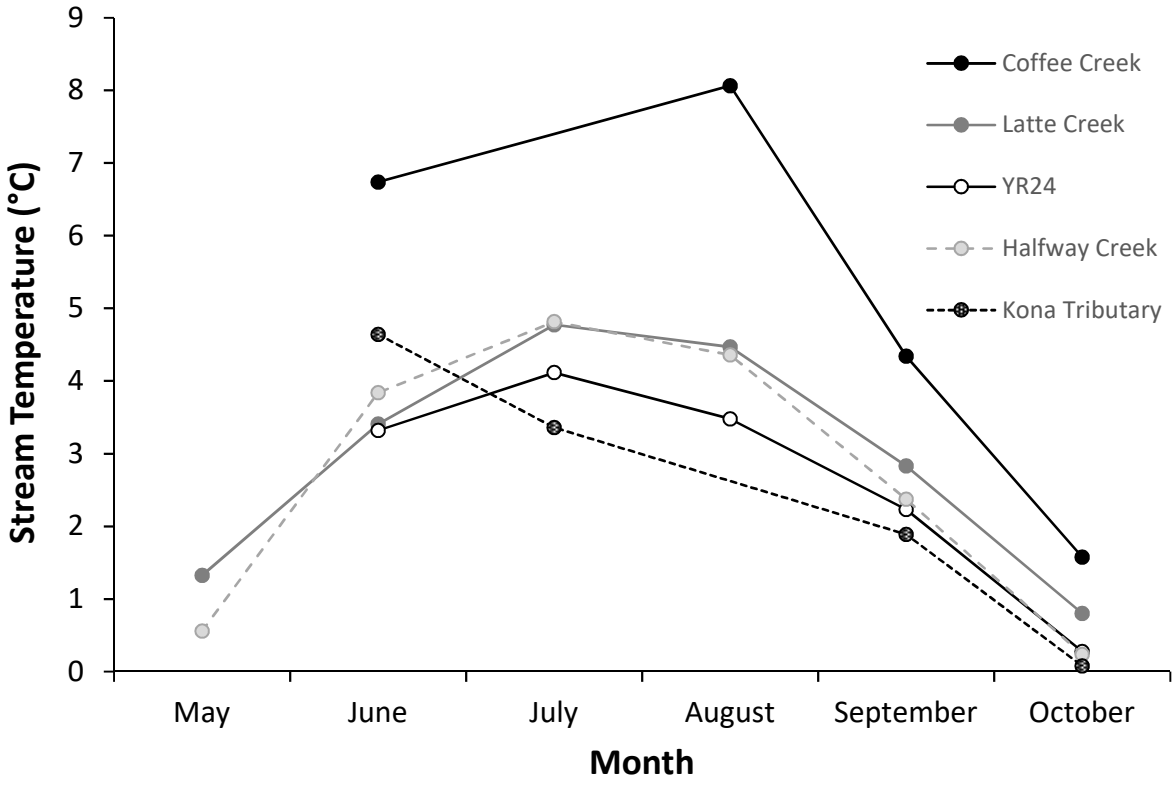

Figure 14. Mean monthly stream temperatures, Coffee Gold Project, 2014-2015

3.4.1 Winter Fish Habitat Survey

Results from the winter fish habitat survey on Latte Creek indicated a very low likelihood of fish utilization in winter, owing to lack of wetted habitat, and/or heavy ice cover. Lower Latte Creek was dry beneath the ice or frozen to the bottom in all surveyed areas with the exception of some localized over-ice flow. Upstream on Latte Creek, the creek was generally frozen to bottom, and any flow detected was over or through layers of ice. At AQ04, the creek was dry under ice at the location of a deep summer pool. Latte Creek Tributary C had some flow, but was heavily glaciated, and the water was running through or over layers of ice, as well as over land, with no defined channel or exposed substrate. The estimated flow in the tributary where it entered Latte Creek was 2 L/s. Dissolved oxygen measured *in situ* at the tributary input was 9.69 mg/L. Overall, suitable overwintering habitat (e.g. deep pools which were not frozen to bottom) was not detected on Latte Creek.

On Coffee Creek, under ice flow was detected at AQ02 and AQ01, however no fish were observed with the underwater camera. Water depths of 0.66 m and 0.37 m were measured at AQ02, beneath 0.44 m and 0.57 m of ice, respectively. At the deepest location (0.66 m depth) dissolved oxygen was 10.3 mg/L, temperature was 0.03°C, and pH was 6.70. At AQ01, water depth was 0.82 m at one drill hole, and ice thickness was 0.15 m. Water quality was measured *in situ* at this location; dissolved oxygen was 13.95 mg/L, temperature was 0.26°C, and pH was 7.27. The underwater camera showed layers of ice throughout the water column, and anchor ice on the stream bed. The creek was frozen to bottom or dry under ice at several other known summer pool locations within AQ01 and AQ02. At AQ00, two deep (>1 m) summer pools within the site were dry. No flow was observed at AQ00. Overall, Coffee Creek appeared to provide some potential overwintering habitat, but the nature and locations may vary year to year depending on temperatures and local climatic conditions.

3.5 Fish Community

Arctic grayling, slimy sculpin, and juvenile Chinook salmon were the most abundant fish species captured in the project study area (Table 10, Table 11, Table 12). Round whitefish (*Prosopium cylindraceum*) are also known to be present in the Coffee Creek watershed but were not captured in 2014 or 2015 (PECG 2013). No Chinook salmon were observed spawning in Coffee and Independence Creeks in 2014-2015 or in previous years (Sparling 2001; Laberge and White Mountain 2002). However, salmon were observed spawning in the Yukon River proximate to the project area during the October survey in 2014. Due to the timing of the survey, it is assumed that the observed spawners were chum salmon. Currently, there are no known fish species at risk in the regional area of the Project.

Table 10. Minnow Trapping Catch Per Unit Effort by Site, Coffee Gold Project, 2014

Date	Watershed	Creek	Site	# traps	mean soak time (h)	# fish caught/trap/day			
						GR	CCG	CH	Total
2014-08-24	Coffee	Coffee	AQ00	10	24.33	0	0.30	12.03	**12.33**
2014-08-27			AQ01	10	23.75	0	0.10	7.28	**7.38**
2014-08-26			AQ02	10	27.17	0	0.35	5.48	**5.83**
2014-08-25		Latte	AQ04	5	23.67	0	0	0	**0**
2014-08-23			AQ05	2	29.00	0	0	0	**0**
2014-08-23			AQ06	2	27.58	0	0	0	**0**
2014-08-23	YR24	YR24	AQ31	2	24.42	0	0	0	**0**
2014-08-23	Halfway	Halfway	AQ21	2	26.08	0	0	0	**0**
2014-08-24	Independence	Independence	AQ10	10	24.92	0	0	0.96	**0.96**
2014-08-25			AQ11	10	24.75	0	0	0.10	**0.10**
2014-08-23		Kona Tributary	AQ12	2	22.50	0	0	0	**0**
2014-08-23			AQ13	2	23.50	0	0	0	**0**
2014-08-21	Isaac	Isaac	AQREF1*	8	26.55	0.11	0.11	3.95	**4.18**
August Total				**75**	**25.15**	**0.01**	**0.11**	**3.84**	**3.97**
2014-10-05	Coffee	Coffee	AQ00	5	25.25	0	0.19	4.75	**4.94**
2014-10-05			AQ01	5	25.00	0	0.38	6.72	**7.10**
2014-10-05			AQ02	5	25.00	0	0.58	3.07	**3.65**
2014-10-05	Independence	Independence	AQ10	5	25.00	0	0	1.15	**1.15**
2014-10-06			AQ11	5	20.67	0	0	0	**0**
2014-10-05	Isaac	Isaac	AQREF1*	5	25.50	0	0	3.58	**3.58**
October Total				**30**	**24.40**	**0**	**0.20**	**3.31**	**3.51**

Notes: GR=Arctic grayling, CCG=slimy sculpin, CH=Chinook salmon (juveniles)
**Reference site*

Table 11. Minnow Trapping Catch Per Unit Effort by Site, Coffee Gold Project, 2015

Date	Watershed	Creek	Site	# traps	mean soak time (h)	# fish caught/trap/day			
						GR	CCG	CH	Total
2015-06-22	Coffee	Coffee	AQ00	5	24.25	0	0.59	0	**0.59**
2015-06-22			AQ01	5	22.50	0	0.43	0	**0.43**
2015-06-21	Independence	Independence	AQ10	5	25.58	0	0	0.19	**0.19**
2015-06-22	Isaac	Isaac	AQREF1*	5	22.75	0	1.27	0	**1.27**
2015-06-20	Los Angeles	Los Angeles	AQREF2*	5	22.50	0	0	0	**0**
			June Total	**75**	**23.52**	**0**	**0.14**	**0.01**	**0.15**
2015-07-26	Coffee	Coffee	AQ00	5	26.58	0	0	1.44	**1.44**
2015-07-26			AQ01	5	19.92	0	0.24	0.48	**0.72**
2015-07-26			AQ02	5	24.75	0.58	0.58	0	**1.16**
2015-07-31		Latte	AQ03	8	30.00	0	0.10	0	**0.10**
2015-07-27	Independence	Independence	AQ10	5	29.00	0	0	0.83	**0.83**
2015-07-31			AQ10	5	20.83	0	0	1.15	**1.15**
2015-07-27			AQ11	5	23.75	0	0	0.00	**0**
2015-07-27	Isaac	Isaac	AQREF1*	5	24.42	0	0.79	16.71	**17.50**
2015-07-30	Los Angeles	Los Angeles	AQREF2*	5	24.83	0	0	0	**0**
2015-07-31			AQREF2*	8	22.50	0	0	0.53	**0.53**
			July Total	**56**	**24.66**	**0.05**	**0.16**	**1.89**	**2.10**
2015-09-12	Coffee	Coffee	AQ03	5	22.08	0	0	0	**0**
2015-09-13	Independence	Independence	AQ10	10	38.25	0	0.06	0.25	**0.31**
2015-09-10	Los Angeles	Los Angeles	AQREF2*	6	32.00	0	0	0.13	**0.13**
			September Total	**21**	**30.78**	**0**	**0.04**	**0.19**	**0.22**

Notes: GR=Arctic grayling, CCG=slimy sculpin, CH=Chinook salmon (juveniles)
**Reference site*

Table 12. Electrofishing Catch Per Unit Effort by Site, Coffee Gold Project, 2014-2015

Watershed	Creek	Site	Section Length (m)	Effort (s)	Catch Per Unit Effort (#/100s)				
					GR	CCG	CH	AL	Total
Coffee	Coffee	AQ00	120	1457	0	1.65	0.69	0	2.33
		AQ02	150	2060	0	1.80	0	0	1.80
	Latte	AQ03	20 - 200	4248	0.16	0.12	0	0	0.28
		AQ04	120	3568	1.15	0	0	0	1.15
		AQ04.5	140	1724	0	0	0	0	0
		AQ06	100 - 150	1603	0	0	0	0	0
YR24	YR24	AQ30	100 - 120	1821	0	0.27	0	0	0.27
		AQ31	100 - 120	1503	0	0	0	0	0
Halfway	Halfway	AQ20	100	2074	0.10	0	0	0	0.10
		AQ21	100 - 120	1741	0	0	0	0	0
Independence	Independence	AQ10	100	957	0.21	0.73	0	0	0.94
		AQ11	150	1295	0.39	0	0	0	0.39
	Kona Tributary	AQ12	100 - 275	1908	0.16	0	0	0	0.16
		AQ13	100 - 120	1332	0	0	0	0	0
Isaac	Isaac	AQREF1*	60-100	2740	0.18	2.88	1.50	0.04	4.60
Los Angeles	Los Angeles	AQREF2*	250	2717	0.04	0	0	0	0.04
			Total	**33231**	0.20	0.50	0.15	0	0.86

Notes: GR=Arctic grayling, CCG=slimy sculpin, CH=Chinook salmon (juveniles), AL=Arctic lamprey
**Reference site*
Effort and catch per unit effort is based on Pass 1 only

3.5.1 Fish species Composition, Relative Abundance and Distribution

3.5.1.1 Coffee Creek

Minnow trapping was the most effective method for capturing juvenile Chinook salmon (jcs), with the highest mean catch/trap/day at site AQ00 in August 2014 (12.0 jcs/trap/day), at site AQ01 in October 2014 (6.7 jcs/trap/day), and at site AQ00 in July 2015 (1.4 jcs/trap/day) (Table 10 and Table 11). Capture rates of juvenile Chinook salmon were 8-15 times higher in August 2014 in comparison to July 2015, suggesting that juvenile rearing in Coffee Creek may exhibit variability year to year. Low numbers of juvenile Chinook salmon observed at the three Coffee Creek sites in fall 2014 indicated that overwintering likely occurred in the creek. However, it is noted that fish may not feed as actively during lower fall temperatures, and thus the lowered capture rate may not be indicative of any decline in abundance. Spring sampling in 2015 yielded almost no juvenile Chinook, suggesting that the fish had already left for their seasonal migration, or had not survived the winter.

Electrofishing was the most effective method for capturing slimy sculpin, with 1.8 and 1.7 sculpins/100s of electrofishing captured at sites AQ02 and AQ00, respectively (Table 12). Angling was the most effective method for capturing Arctic grayling in the study's larger systems such as mainstem Coffee Creek that are difficult to adequately isolate to prevent escapement during electrofishing. The highest catch per unit effort of angling (rod-hour) was at AQ02 (5.3 Arctic grayling per rod-hour), followed by AQ00 (2.3 Arctic grayling per rod-hour), and then AQ01 (2.0 Arctic grayling per rod-hour). Fyke trapping also produced small numbers of Arctic grayling, but was much less effective overall.

In Latte Creek, only Arctic grayling and slimy sculpin were present. Slimy sculpin were only captured at the most downstream site (AQ03), and near the mouth of Latte Creek. Further upstream, Arctic grayling were captured in relatively high densities at site AQ04, with an approximate population estimate of 6 Arctic grayling/100 m^2 in 2014, and 10 Arctic grayling/100 m^2 in 2015 (±2 grayling, 90% confidence intervals for both years). No slimy sculpin were captured at AQ04, suggesting that the species distribution may not extend far upstream. At the furthest upstream sites, AQ04.5, AQ05 and AQ06, no fish were caught using two sampling methods and over two seasons of sampling, however one adult Arctic grayling was observed at the furthest downstream site in summer 2015, at AQ04.5.

3.5.1.2 Independence Creek

Arctic grayling, juvenile Chinook salmon, and slimy sculpin were captured in mainstem Independence Creek. In 2014, juvenile Chinook were present in relatively low numbers at both sites (0.96 jcs/trap/day at AQ10 and 0.10 jcs/trap/day at AQ11) in August, and only at the most downstream site (1.15 jcs/trap/day at AQ10) in October. Capture rates were similar in summer 2015, with 0.83-1.15 jcs/trap/day at AQ10 and no juvenile Chinook captured at AQ11. In addition, a single juvenile Chinook was captured at AQ10 in spring 2015, and four juvenile Chinook remained during September 2015 sampling at this site. Slimy sculpin were captured at AQ10 at a rate of 1.18 sculpins/100s of electrofishing, but were not captured at AQ11 further upstream. Arctic grayling were present at both sites, with a higher CPUE observed at AQ11 (0.39 grayling/100s of electrofishing at AQ11, 0.21 grayling/100s of electrofishing at AQ10). In 2014, data was available for producing a population estimate at AQ11 using the two-pass sampling method (Seber

and Le Cren 1967), which estimated that there were approximately 3 Arctic grayling/100m^2 (±2, 90% CI). Flows were too high in 2015 to effectively isolate AQ11 for multiple pass electrofishing, and instead angling was used, with 1.45 Arctic grayling captured per rod-hour.

Two sites were sampled in the Kona tributary, one far downstream near its confluence with mainstem Independence Creek (AQ12), and one in the upper headwaters (AQ13). In 2014, no fish were captured at either site during August sampling, however, several Arctic grayling were observed at AQ12 while deploying minnow traps in the stream. In June 2015, three Arctic grayling were captured while electrofishing at a rate of 0.43 fish per 100s of effort. No fish were captured during summer sampling in July 2015 (627s of effort).

3.5.1.3 YR24

YR24, located between Coffee and Halfway Creeks, was sampled in late August 2014 using minnow traps and electrofishing. No fish were captured and the site was not re-visited in October of that year. In 2015, sites AQ30 and AQ31 were electrofished in both June and July. In June, five slimy sculpin were captured within 50m of the Yukon River, which was back-flooded into the creek at the time of sampling. No fish were caught at AQ30 during the subsequent July trip. Higher in the watershed, no fish were captured at AQ31 during either sampling period (effort ranged from 748-755s per sampling event).

3.5.1.4 Halfway Creek

Halfway Creek was sampled in late August 2014 using minnow traps and electrofishing. A single adult Arctic grayling was captured in a pool habitat at AQ20, producing a CPUE of 0.15 grayling/100s of electrofishing. The site was not re-visited in October. In 2015, sites AQ20 and AQ21 were electrofished in both June and July. Again, a single adult Arctic grayling was captured in a pool at AQ20. No fish were captured at AQ21 during either sampling period (effort ranged from 845-896s per sampling event).

3.5.1.5 Isaac Creek

Isaac Creek was comprised of the most diverse fish community in the study area, with a total of six fish species present: Arctic grayling, slimy sculpin, juvenile Chinook salmon, juvenile burbot (*Lota lota*), longnose sucker (*Catostomus catostomus*), and Arctic lamprey (*Lethenteron camtschaticum*). The most dominant species were slimy sculpin and juvenile Chinook salmon, which made up 39% and 56% of the catch, respectively. Juvenile Chinook salmon were caught at approximately 4.0 jcs/trap/day in August 2014, 3.6 jcs/trap/day in October 2014, and then rose markedly to 16.7 jcs/trap/day in July 2015. Electrofishing in 2014 yielded 4.6 fish/100s of electrofishing, with the majority of the catch being slimy sculpin. A three-pass population estimate of the site estimated that there were 11 juvenile Chinook salmon/100m^2 ±3 fish (90% CI). A population estimate for all fish species combined was not possible due to a violation of the assumption that probability of capture is the same for all passes.

3.5.1.6 Los Angeles Creek

Arctic grayling, slimy sculpin, and juvenile Chinook salmon were captured at AQREF2 in Los Angeles Creek in low abundances. All fish were caught during summer and fall sampling events; no fish were captured with minnow traps in June. Using minnow traps, the rate of catch was 0.53 jcs/trap/day in July and 0.13 jcs/trap/day in September 2015. Electrofishing efforts yielded a single slimy sculpin (in the

second electrofishing pass), and one adult Arctic grayling, however more grayling were observed in deep pools not accessible to backpack electrofishing. Angling efforts at this site yielded one additional adult Arctic grayling, but conditions were not suitable as heavy rains reduced visibility.

3.5.2 Size, Age and Condition

3.5.2.1 Arctic grayling

Arctic grayling length-at-age was characterized for the local study area using a von Bertalanffy growth curve (R^2=0.98, P<0.01 for all parameters; Figure 15). Ages from the Coffee (mainstem), Latte, Independence and Los Angeles Creek watersheds ranged from 2-9 years, with mean ages of 4-6. On average, Arctic grayling from Independence Creek exhibited the lowest length-at-age, whereas mainstem Coffee Creek Arctic grayling had the highest length-at-age (Table 13). However, among-watershed differences of mean age were not significant (ANOVA, $F_{3,47}$=2.63, P=0.06).

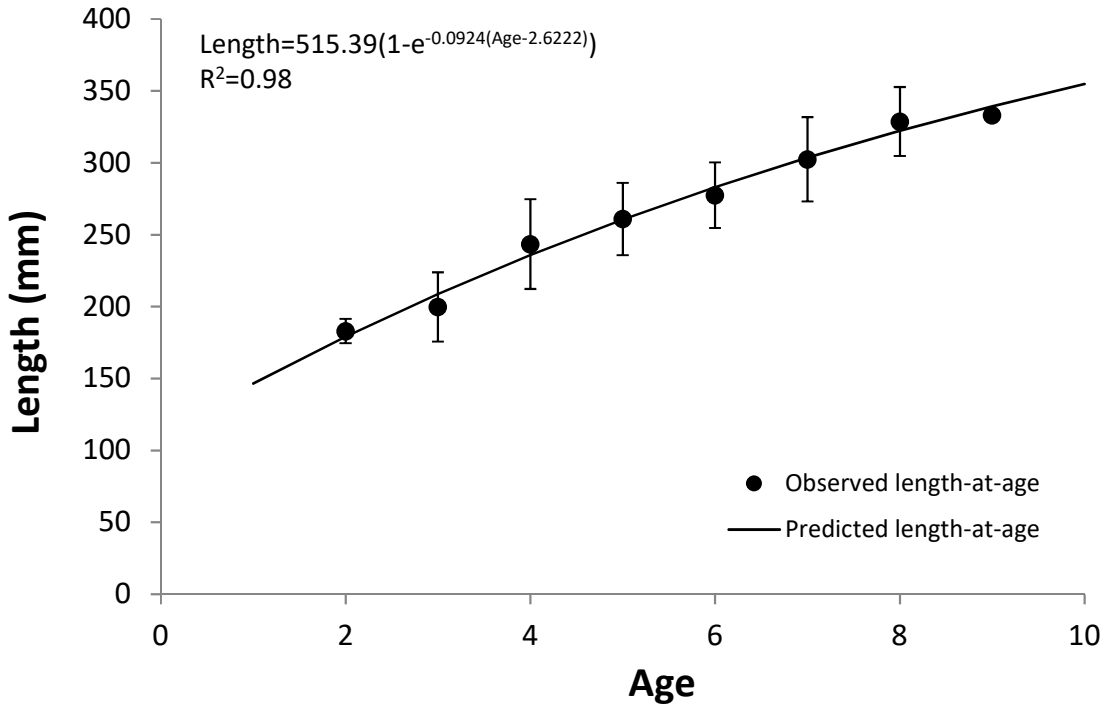

Figure 15. Length-at-age von Bertalanffy relationship for Arctic grayling in the local study area, Coffee Gold Project, 2014-2015. Bars represent standard deviation

Table 13. Arctic grayling length-at-age by Watershed, Coffee Gold Project, 2014-2015

Watershed	Age	n	Length (mm)	
			Mean	SD
Coffee	3	1	214	n/a
	4	4	231	17
	5	5	260	14
	6	3	291	32
	7	5	307	31
	8	1	320	n/a
	9	1	333	n/a
	Total	**20**	**275**	**41**
Latte	3	1	233	n/a
	4	4	256	39
	5	8	263	32
	6	2	272	20
	7	2	290	28
	8	3	332	28
	Total	**20**	**274**	**39**
Independence	2	2	183	8
	3	3	184	12
	5	1	250	n/a
	6	3	268	13
	Total	**9**	**219**	**43**
Los Angeles*	4	1	251	n/a
	6	1	270	n/a
	Total	**2**	**261**	**13**

Notes: n=sample size, SD=Standard deviation
**Reference site*

Arctic grayling lengths ranged from 48-357mm, with the majority of individuals between either 50-75mm or 175-350mm (Figure 16). In the Coffee Creek watershed, no young-of-the-year were captured as all Arctic grayling were greater than 113mm (Figure 15; PECG 2013a). The largest Arctic grayling captured in the study area were from Latte Creek, where two grayling exceeded 350mm in length. A single young-of-the-year was caught in the Independence Creek watershed at AQ10. In contrast, the majority of Arctic grayling caught at the Isaac Creek reference site were young-of-the-year (48-72mm), with only one fish large enough to likely represent an older age class (121mm; Figure 15; PECG 2013a).

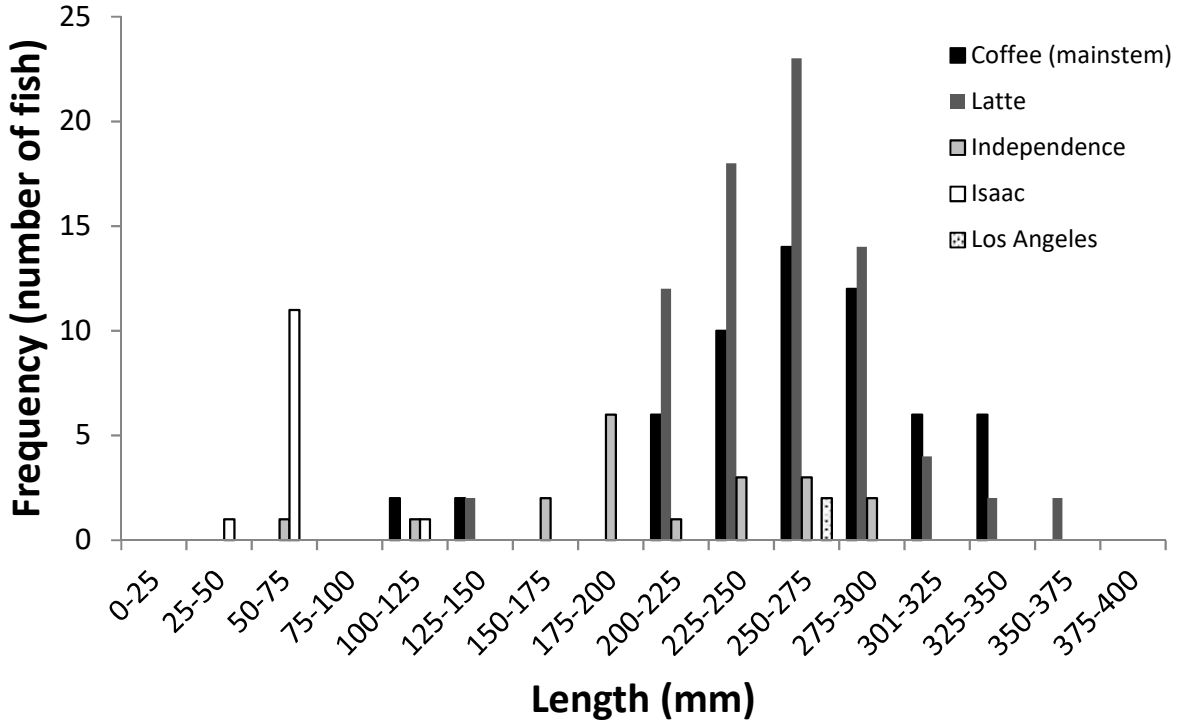

Figure 16. Arctic grayling lengths in the Coffee Gold study area, 2014-2015

Arctic grayling weight-length regressions for each watershed were significant (Figure 17, Linear regressions $R^2 \geq 0.96$, df≥1,11, P<0.01). Fish growth can either be allometric, meaning that the length:weight ratio changes over time, or isometric, meaning that the length:weight ratio remains consistent throughout growth. In the combined model for mine area sites (Latte, Coffee, Halfway, and Independence Creeks), fish growth was allometric (slope>3) with fish becoming heavier as length increased. In contrast, fish growth for Isaac Creek grayling was isometric (slope=3). Relative condition factors based on the combined length-weight regression were similar among watersheds, with the exception of mainstem Coffee Creek which was significantly lower than Latte and Independence Creeks (Figure 18, Kruskal Wallis, $H_3=15.12$, P=0.02; Post-hoc multiple comparison test, P<0.05).

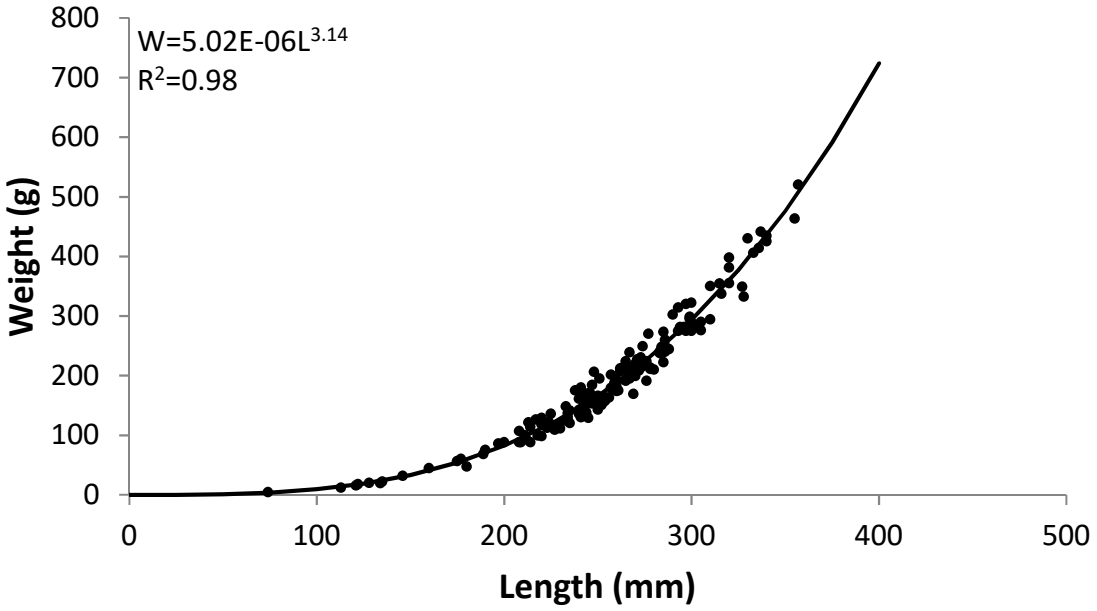

Figure 17. Arctic grayling weight-length relationship for Latte, Coffee, Independence, and Halfway Creeks, Coffee Gold Project, 2014-2015

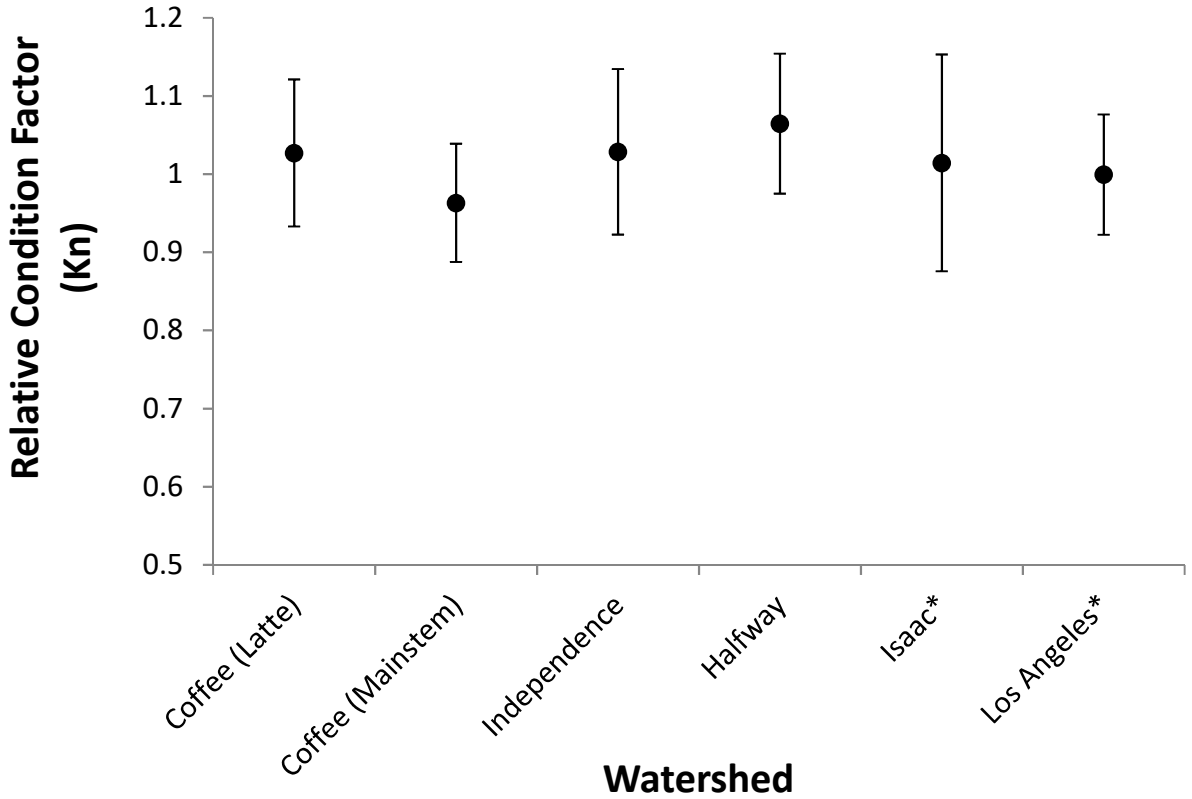

Figure 18. Arctic grayling relative condition factor (Kn) by watershed, Coffee Gold Project, 2014-2015. Bars represent standard deviation and (*) indicates a fisheries reference site

3.5.2.2 Slimy sculpin

Coffee Creek slimy sculpin length-at-age was characterized using a von Bertalanffy growth curve (R^2=0.95, P≤0.01 for all parameters; Length=115(1-$e^{-0.2965Age+2.6487}$)); (Table 14, Figure 19). Similar growth curves for the combined model or other separate watersheds are not presented here; parameter confidence intervals were too high and models were not statistically significant. Ages from the Coffee (mainstem), Independence, Isaac and Los Angeles Creek watersheds ranged from 1-7 years, with mean ages of 2-5. On average, Arctic grayling from Isaac Creek exhibited the lowest length-at-age, whereas mainstem Coffee Creek Arctic grayling had the highest length-at-age. However, among-watershed differences of mean age were not significant (Kruskal Wallis, H_2=4.28, P=0.12).

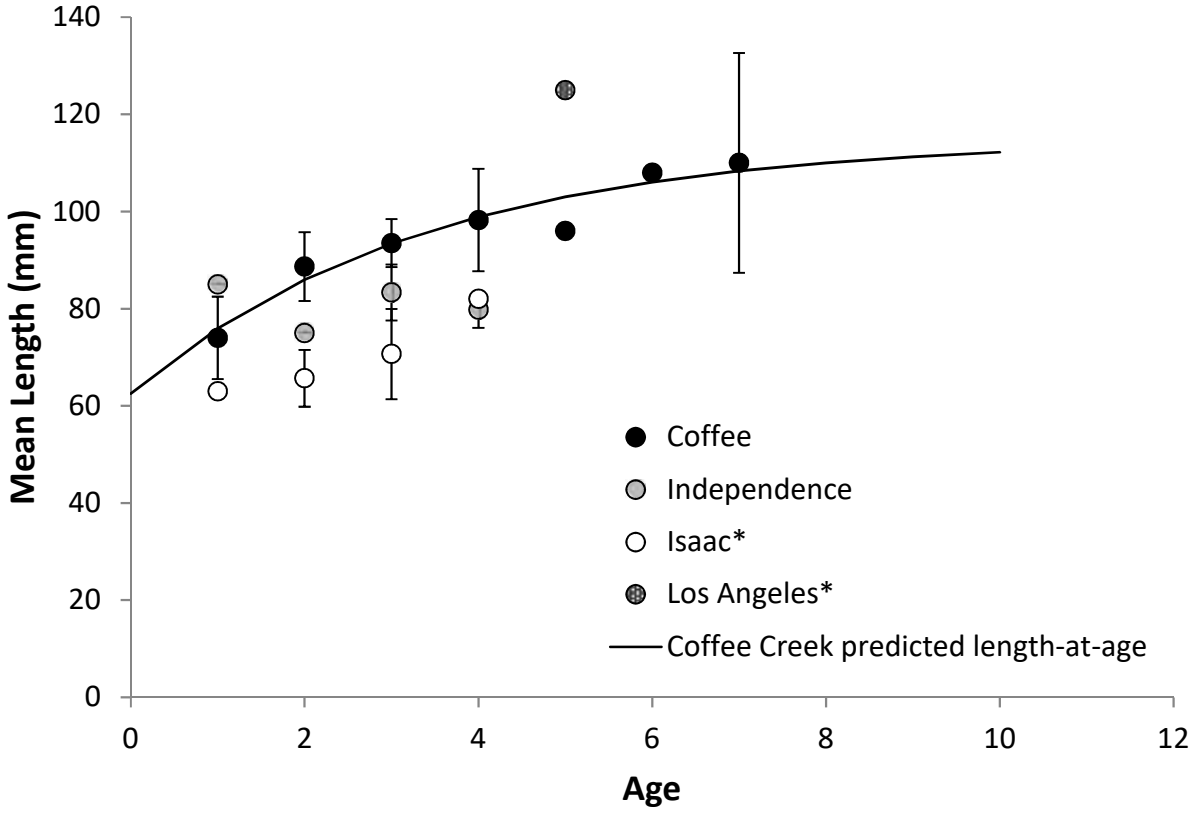

Figure 19. Length-at-age for slimy sculpin in the local study area, Coffee Gold Project, 2014-2015. Length-at-age von Bertalanffy relationship presented for Coffee Creek slimy sculpins. Bars represent standard deviation and (*) indicates a fisheries reference site

Table 14. Slimy sculpin length-at-age by Watershed, Coffee Gold Project, 2014-2015

Watershed	Age	n	Length (mm)	
			Mean	SD
Coffee	1	2	74	8
	2	3	89	7
	3	2	94	5
	4	4	98	11
	5	1	96	n/a
	6	1	108	n/a
	7	2	110	23
	Total	**15**	**95**	**14**
Independence	1	1	85	n/a
	2	1	75	n/a
	3	3	83	6
	4	4	80	4
	5	0	n/a	n/a
	Total	**9**	**81**	**5**
Isaac*	1	1	63	n/a
	2	6	66	6
	3	3	71	9
	4	1	82	n/a
	5	0	n/a	n/a
	Total	**11**	**68**	**8**
Los Angeles*	5	1	125	n/a

Notes: n=sample size, SD=Standard deviation
**Reference site*

Slimy sculpin lengths ranged from 19-126mm in the study area (Figure 20). The smallest slimy sculpins observed (<30mm) were noted in Isaac Creek. Length distributions were similar for all watersheds, being unimodal and converging around expected adult size. However, mean length was substantially higher for Latte Creek sculpins (99 mm, n=13), relative to the other watersheds which ranged from 67 – 77 mm.

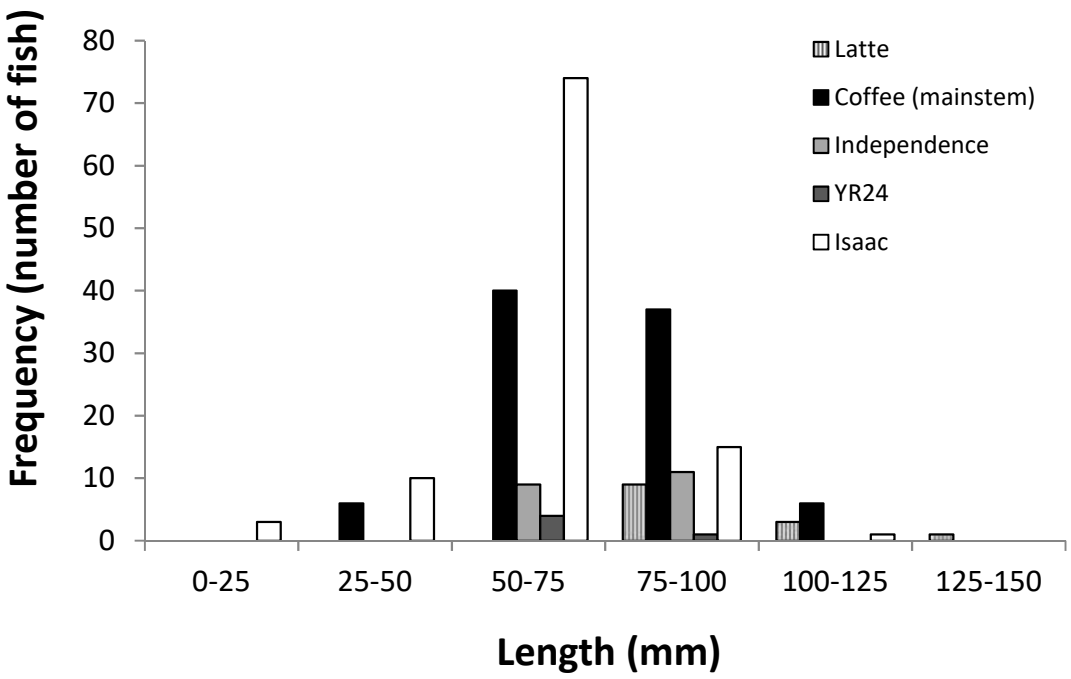

Figure 20. Slimy sculpin lengths in the Coffee Gold study area, 2014-2015

Slimy sculpin weight-length regressions for each watershed were significant (Figure 21, Linear regressions $R^2 \geq 0.53$, df≥1,3, P≤0.01). Fish growth was isometric for all watersheds, meaning that fish did not change shape as they increased in length (slope=3). Slimy sculpin condition was highest in Independence Creek (1.30), and lowest in YR24 (0.96), with Independence Creek having significantly higher condition than all four watersheds (Figure 22, ANOVA, $F_{4,219}=7.8$, P<0.01; Tukey post-hoc HSD Test, P≤0.01). In addition, slimy sculpins from Coffee Creek mainstem had significantly lower condition than sculpins from Isaac Creek (P=0.048).

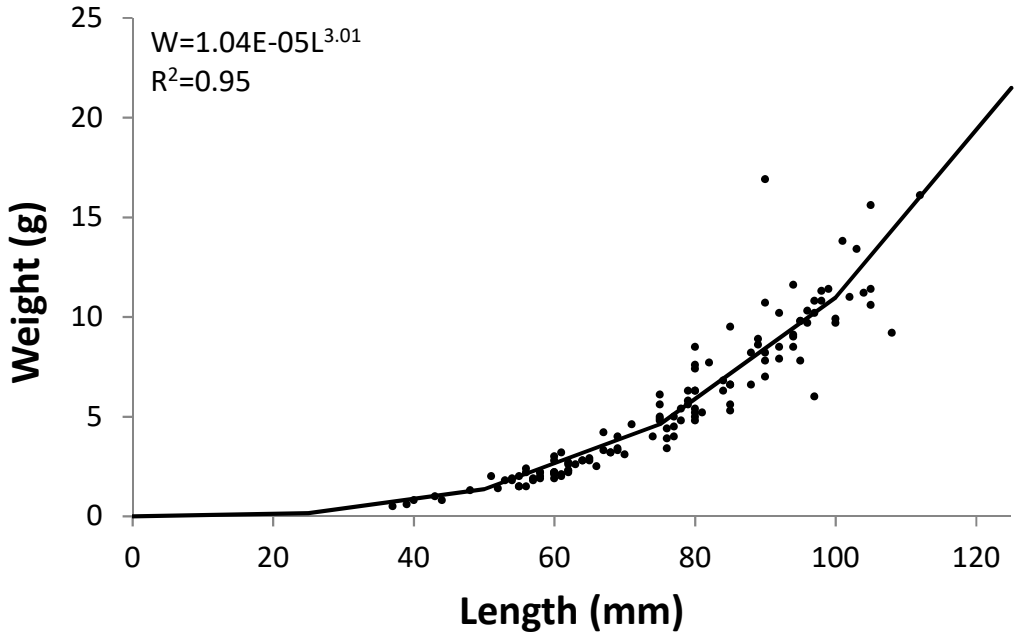

Figure 21. Slimy sculpin weight-length relationship for Latte, Coffee, YR24 and Independence Creeks, Coffee Gold Project, 2014-2015

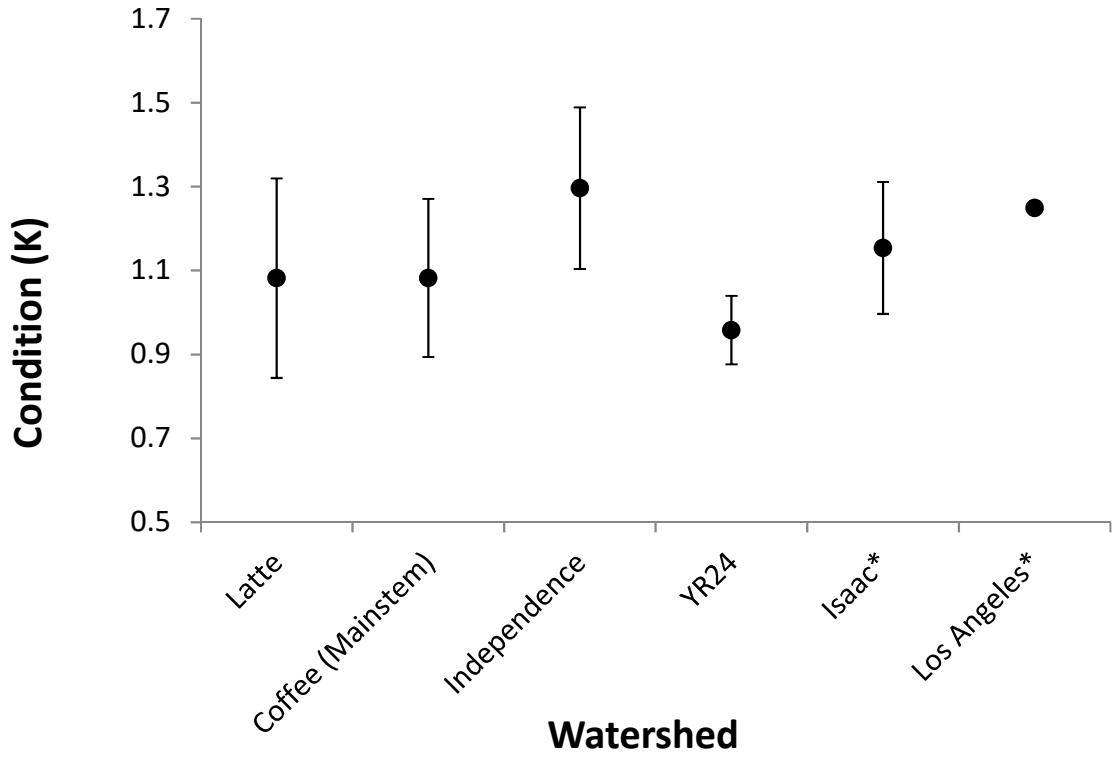

Figure 22. Slimy sculpin Fulton's condition factor (K) by watershed, Coffee Gold Project, 2014-2015. Bars represent standard deviation and (*) indicates a fisheries reference site

3.5.2.3 Chinook salmon

Juvenile Chinook salmon lengths ranged from 48-110mm in the project study area (Figure 23). Juvenile Chinook in Los Angeles Creek had the highest mean length (79mm), followed by Coffee and Independence Creeks (77m), and then Isaac Creek (68mm).

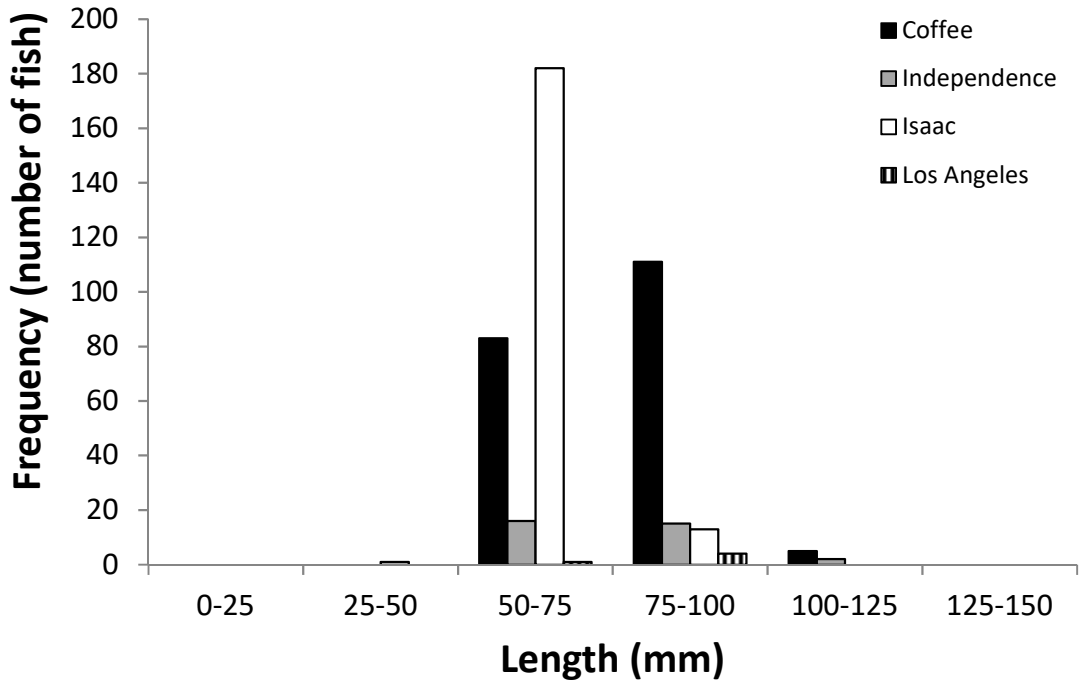

Figure 23. Juvenile Chinook salmon lengths in the Coffee Gold study area, June-October, 2014-2015

Juvenile Chinook salmon weight-length regressions for each watershed were significant (Figure 24, Linear regressions $R^2 \geq 0.81$, df≥1,3, P≤0.01). Fish growth was allometric for individuals in Coffee Creek (slope<3), with fish becoming proportionately lighter as length increased, and isometric for all other watersheds (slope = 3). Relative condition factors based on the combined length-weight regression were similar among all watersheds, with the exception of Coffee Creek which had significantly higher relative condition than Independence Creek (Figure 25, Kruskal Wallis, $H_3=10.44$, P=0.02; Post-hoc multiple comparison test, P=0.02).

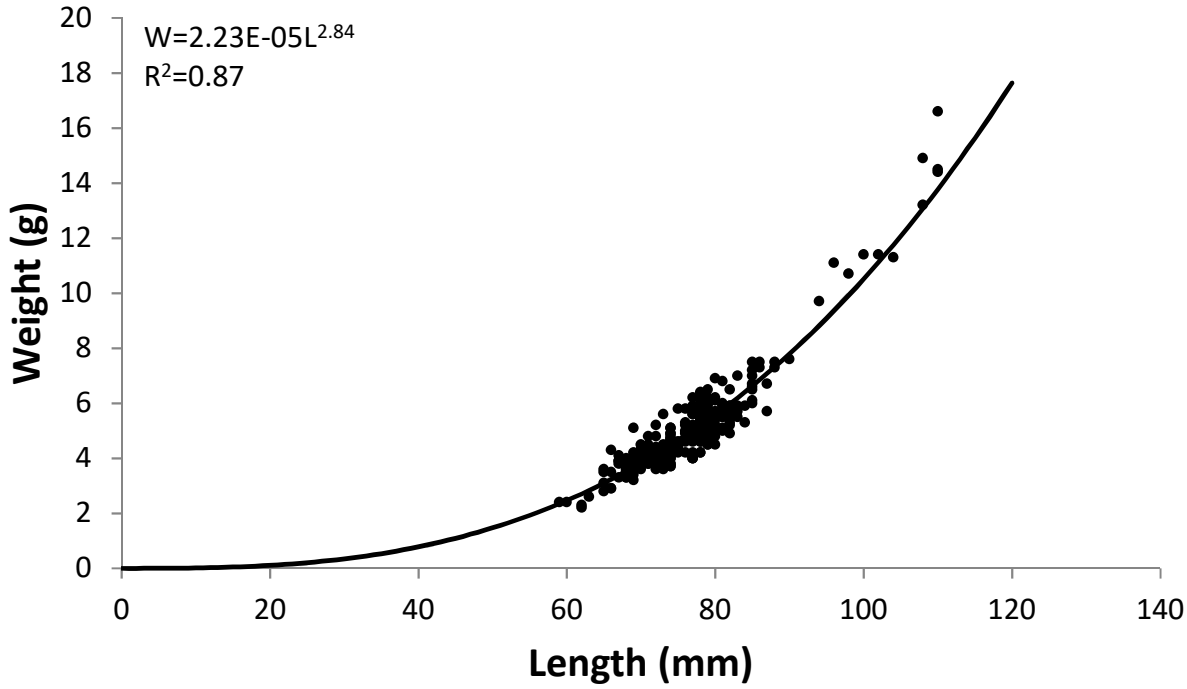

Figure 24. Juvenile Chinook salmon weight-length relationship for Coffee and Independence Creeks, Coffee Gold Project, 2014-2015

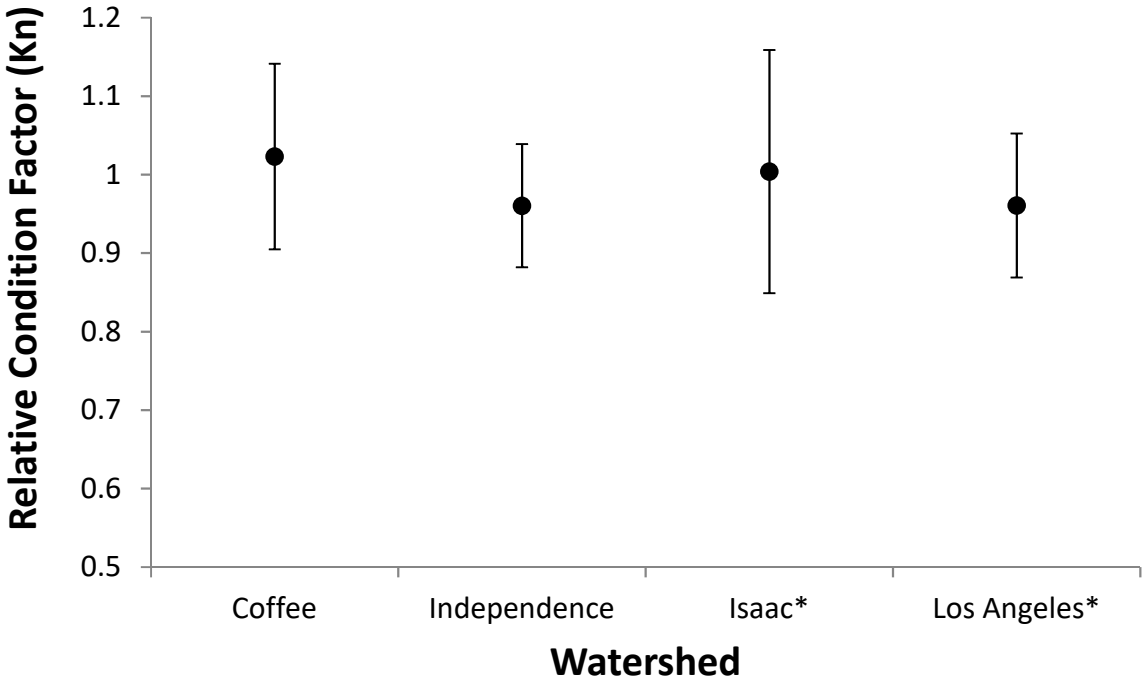

Figure 25. Juvenile Chinook salmon relative condition factor (Kn) by watershed, Coffee Gold Project, 2014-2015. Bars represent standard deviation and (*) indicates a fisheries reference site

3.5.3 Tissue Metal Concentrations

Selected metal concentrations in Arctic grayling and slimy sculpin tissues were compared among watersheds including Coffee Creek (mainstem), Latte Creek, Independence Creek, and the Isaac and Los Angeles Creek reference sites (raw data can be found in Appendix F5). Certain metals are required for fish physiological processes but may become toxic above certain thresholds (e.g., copper, selenium, zinc). In contrast, there are several non-essential metals that have no determined biological role and may be toxic even at low concentrations (*e.g.,* cadmium, lead, nickel). The only guidelines currently available to determine safe metal concentrations in slimy sculpin are for selenium and mercury. As there are no other guidelines developed, noted differences among watersheds may not provide insight into adverse metal effects. However, as guidelines may be developed in the future, it is important to characterize baseline metal concentrations within the project study area prior to development.

It should be noted that results from the metals analysis of fish tissues in 2014 may have been affected by potential thawing of samples during transit. However, results for slimy sculpins were within the range of values observed in nearby watersheds for the Casino Project and can therefore be considered as reliable baseline (PECG 2013a). Sub-sampling of sculpin tissues from some of the same watersheds in 2015 identified some potential differences between years, although guideline exceedances were overall similar for selenium and mercury. Based on these apparent differences between years, further sampling of these watersheds would be beneficial for characterizing more accurate baseline metal concentrations in the mine area.

3.5.3.1 Arctic grayling

Mean estimated methylmercury concentrations exceeded the guideline for the protection of piscivorous wildlife in all watersheds for Arctic grayling (CCME, 2000). In contrast, Health Canada total mercury guidelines were not exceeded by Arctic grayling tissues in any watershed (Health and Welfare Canada 1979; Canadian Food Inspection Agency, 2011). The guideline for the protection of piscivorous wildlife is conservatively based on one avian species (the storm petrel) that consumes almost its entire body weight each day, and thus is highly sensitive to methylmercury bioaccumulation (CCME, 2000).

Mean selenium concentrations in Arctic grayling tissues in all four watersheds exceeded the selenium guidelines for the protection of freshwater aquatic life, which were recently updated in spring 2014 (Table 15; BC MOE 2014). The mean selenium concentrations did not surpass the human health guidelines for selenium with the exception of Independence Creek samples, which exceeded the lowest guideline of 7.3 mg/kg, provided for high consumers of fish. In addition, approximately 33-38% of individual samples in all watersheds exceeded the lowest guideline provided for high consumers of fish, with the exception of Arctic grayling in Latte Creek which were all below the guideline. The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual Arctic grayling samples. Selenium toxicity can produce varying effects on fish and aquatic organisms including liver and ovary abnormalities (Sorensen 1998), impaired growth (Dobbs *et al.,* 1996), reduced reproduction (Lemly 2004), and teratogenesis during early development (Lemly and Smith 1987).

Overall, Independence Creek Arctic grayling tissues demonstrated the highest mean metal concentrations with greater barium, cadmium, selenium, strontium, and zinc concentrations in comparison to grayling from mainstem Coffee, Latte and Los Angeles Creeks (Table 15). The second overall highest tissue metal concentrations were observed in Los Angeles, where grayling demonstrated the highest mean concentrations of arsenic, manganese and thallium in comparison to grayling from other watersheds. Latte Creek grayling exhibited the lowest metal concentrations overall, except for mercury, selenium, and thallium where they had the highest (mercury) and second highest (barium, cadmium, copper) values relative to other watersheds. Uranium concentrations were low among all watersheds, with all values within 3x the laboratory detection limits (0.001-0.003 mg/kg wet weight).

Table 15. Selected total metal concentrations in Arctic grayling muscle tissue, Coffee Gold Project, 2014-2015

	Latte (n=8)		Coffee (n=8)		Independence (n=8)		Los Angeles* (n=2)		Guidelines	
Analyte	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Wildlife**	**Human Health**
Aluminum	1.25	0.61	2.50	1.30	2.03	2.05	1.45	0.78		
Arsenic	0.034	0.012	0.033	0.015	0.038	0.005	0.056	0.018		
Barium	0.15	0.08	0.11	0.04	0.18	0.13	0.14	0.05		
Cadmium	0.006	0.003	0.005	0.002	0.008	0.009	0.003	0.001		
Copper	0.39	0.11	0.45	0.14	0.35	0.05	0.39	n/a		
Iron	5.1	1.4	8.9	2.1	6.5	3.2	6.0	1.4		
Lead	0.006	0.003	0.003	0.002	0.010	0.022	<0.01	n/a		
Mercury	0.110	0.023	0.064	0.019	0.052	0.019	0.067	0.002		0.2-0.5[a]
Methylmercury[b]	**0.10**	0.02	**0.06**	0.02	**0.05**	0.02	**0.06**	0.00	0.033[c]	
Manganese	0.34	0.06	0.42	0.15	0.51	0.21	0.55	0.02		
Molybdenum	<0.01	n/a	<0.01	n/a	<0.01	n/a	<0.01	n/a		
Nickel	0.01	0.00	0.06	0.01	0.06	0.02	0.03	n/a		
Selenium[d]	**4.07**	1.04	**6.96**	1.11	**7.43**	1.66	**5.96**	2.25	4.0[e]	[f]High: 7.3; Medium: 14.5; Low: 75
Strontium	0.39	0.31	0.54	0.20	1.06	0.81	0.78	0.24		
Thallium	0.005	0.001	0.006	0.001	0.006	0.001	0.006	n/a		
Zinc	5.5	1.4	5.5	1.0	6.6	2.2	5.5	0.4		

*Notes: All units are mg/kg wet weight unless otherwise specified. SD=Standard deviation, n=sample size, *Reference site*

[a]Health Canada mercury guidelines range from 0.2-0.5 for subsistence consumers (Health and Welfare Canada 1979) and maximum allowable level for sale (Canadian Food Inspection Agency 2011), respectively

[b]Methylmercury is estimated based on 95% of total mercury for Arctic grayling (Jewett et al. 2003)

[c]Canadian Council of Ministers of the Environment tissue residue guideline (CCME 2000) to protect piscivorous wildlife from methylmercury toxicity

[d]Selenium is reported in mg/kg dry weight

[e]British Columbia Ministry of Environment aquatic life (whole-body) selenium guideline (BC MOE 2014) for the protection of freshwater aquatic life

[f]British Columbia Ministry of Environment human consumption selenium screening values for low (0.03 kg/day), medium (0.11 kg/day), and high (0.22 kg/day) fish intake (BC MOE 2014)

***Bolded** values exceed guidelines for the protection of aquatic and piscivorous wildlife; Grey Highlighted values exceed Human Health Guidelines*

3.5.3.2 Slimy Sculpin

2014 Data:

Mean estimated methylmercury concentrations exceeded the guideline for the protection of piscivorous wildlife in all watersheds for slimy sculpin. In contrast, Health Canada total mercury guidelines were not exceeded by mean mercury concentrations of sculpin tissues in any watershed. However, as people do not consume slimy sculpin, the comparison to Health Canada guidelines are not directly relevant.

Mean selenium concentrations in slimy sculpin tissues in all three watersheds exceeded the selenium guidelines for the protection of freshwater aquatic life (BC MOE, 2014). The mean selenium concentrations did not surpass the human health guidelines for selenium, although there were one to two sculpins in each watershed that individually exceeded the lowest guideline provided for high consumers of fish. The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual sculpin samples. Again, it should be noted that people do not consume slimy sculpin and thus the comparison to human health guidelines are not directly relevant.

Overall, Independence Creek slimy sculpin tissues demonstrated the highest mean metal concentrations with greater aluminum, arsenic, copper, iron, lead, molybdenum, nickel and thallium concentrations in comparison to sculpins from Coffee and Isaac Creeks (Table 16). The second overall highest tissue metal concentrations were observed in Isaac Creek, where sculpins demonstrated the highest mean concentrations of barium, cadmium, manganese, selenium, strontium, and zinc in comparison to sculpins from Independence and Coffee Creeks. Coffee Creek sculpins often exhibited the lowest metal concentrations overall, except for mercury, selenium, and thallium where they had the highest (mercury) and second highest (selenium, thallium) values relative to other watersheds.

Table 16. Selected total metal concentrations in slimy sculpin tissue, Coffee Gold Project, 2014

	Coffee (n=9)		Independence (n=8)		Isaac* (n=9)		Guidelines	
Analyte	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Wildlife**	**Human Health**
Aluminum	7.61	6.11	34.64	43.75	11.73	7.29		
Arsenic	0.069	0.017	0.111	0.042	0.093	0.038		
Barium	1.58	1.19	2.10	1.05	3.45	0.99		
Cadmium	0.020	0.024	0.122	0.076	0.181	0.124		
Copper	0.64	0.23	0.97	0.57	0.65	0.16		
Iron	23	14	64	68	33	17		
Lead	0.012	0.010	0.033	0.020	0.018	0.007		
Mercury	0.107	0.050	0.073	0.018	0.044	0.010		0.2-0.5[a]
Methylmercury[b]	**0.09**	0.04	**0.06**	0.02	**0.04**	0.01	0.033[c]	
Manganese	3.84	2.65	8.09	3.79	10.62	4.44		
Molybdenum	0.009	0.008	0.031	0.024	0.018	0.007		
Nickel	0.04	0.02	0.10	0.06	0.08	0.03		
Selenium[d]	**5.47**	2.21	**4.97**	2.01	**6.02**	1.84	4.0[e]	[f]High: 7.3; Medium: 14.5; Low: 75
Strontium	11.09	8.52	13.81	7.90	19.45	5.49		
Thallium	0.006	0.002	0.008	0.001	0.004	0.001		
Zinc	23.4	8.3	24.6	2.7	30.7	8.8		

*Notes: All units are mg/kg wet weight unless otherwise specified. Whole-body samples were analyzed without head tissues (Refer to Section 2.4.5.1 for more details). SD=Standard deviation, n=sample size, *Reference site. **Bolded** values exceed guidelines for the protection of aquatic and piscivorous wildlife.*

[a]Health Canada mercury guidelines range from 0.2-0.5 for subsistence consumers (Health and Welfare Canada 1979) and maximum allowable level for sale (Canadian Food Inspection Agency 2011), respectively

[b]Methylmercury is estimated based on 83% of total mercury for slimy sculpin (Raymond and Rossmann 2009)

[c]Canadian Council of Ministers of the Environment tissue residue guideline (CCME 2000) to protect piscivorous wildlife from methylmercury toxicity

[d]Selenium is reported in mg/kg dry weight

[e]British Columbia Ministry of Environment aquatic life (whole-body) selenium guideline (BC MOE 2014) for the protection of freshwater aquatic life

[f]British Columbia Ministry of Environment human consumption selenium screening values for low (0.03 kg/day), medium (0.11 kg/day), and high (0.22 kg/day) fish intake (BC MOE 2014)

2015 Data:

Poor sampling conditions (high flows, turbid waters) and low densities of fish lowered sample sizes in Latte and Los Angeles Creeks, where only 1-3 of 8 desired samples were collected in 2015. An additional three samples were obtained at AQ02 and AQREF1 in order to provide verification for sample quality in 2014. Results from these sites are summarized in Table 17.

Overall, guideline exceedances were generally similar to 2014 for both mercury and selenium. All watersheds had mean estimated methylmercury values that exceeded the guideline for the protection of piscivorous wildlife, which was also observed in 2014 (Table 17). One indication of potential between-year differences was for total mercury, as 2/3 slimy sculpin Coffee Creek samples exceeded the human health guideline for subsistence consumers, whereas in 2014 only 1/9 samples exceeded this level. The guideline was also exceeded at Latte Creek, where 2/3 sculpins had values greater than 0.2 mg/kg wet weight. No samples at any sites exceeded the maximum allowable level of mercury for sale guideline (Canadian Food Inspection Agency, 2011).

As was observed in 2014, mean selenium concentrations in slimy sculpin tissues in 2015 exceeded the selenium guidelines for the protection of freshwater aquatic life in all watersheds (BC MOE 2014). Individual samples in Independence, Isaac, and Los Angeles Creek exceeded the selenium human health guideline for high consumers of fish. However the rate of exceedances was comparable to results in 2014 (0-2 sample exceedances per site). The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual slimy sculpin samples.

Uranium:

Uranium concentrations for all watersheds over both years ranged from 0.006 – 0.175 mg/kg wet weight per slimy sculpin sample. The highest uranium concentrations were observed in Latte Creek (mean=0.10 mg/kg wet weight) and mainstem Coffee Creek (2014 mean=0.05 mg/kg wet weight, 2015 mean=0.08 mg/kg wet weight). The remaining watersheds had mean uranium concentrations ranging from 0.011 – 0.024 mg/kg wet weight. While there are no available guidelines for assessing healthy uranium levels, uranium results for Coffee Gold slimy sculpins were within the range of values observed in nearby watersheds for the Casino Project (PECG 2013a).

Table 17. Selected total metal concentrations in slimy sculpin tissue, Coffee Gold Project, 2015

	Latte (n=3)		Coffee (n=3)		Ind (n=1)	Isaac* (n=3)		LA* (n=1)	Guidelines	
Analyte	**Mean**	**SD**	**Mean**	**SD**	**Value**	**Value**	**SD**	**Value**	**Wildlife**	**Human Health**
Aluminum	30.23	1.78	50.77	55.83	17.80	18.50	14.47	49.70		
Arsenic	0.131	0.016	0.118	0.046	0.107	0.217	0.158	0.216		
Barium	3.56	1.30	2.69	1.05	0.66	3.35	0.61	3.24		
Cadmium	0.050	0.008	0.036	0.022	0.072	0.126	0.034	0.111		
Copper	1.11	0.10	0.97	0.29	0.92	0.66	0.12	1.55		
Iron	54.0	13.1	74.7	72.5	45.0	57.0	47.0	85.0		
Lead	0.020	0.003	0.017	0.017	0.016	0.040	0.042	0.020		
Mercury	0.154	0.093	0.199	0.062	0.069	0.049	0.017	0.084		0.2-0.5[a]
Methylmercury[b]	**0.13**	0.08	**0.17**	0.05	**0.06**	**0.04**	0.01	**0.07**	0.033[c]	
Manganese	10.33	3.73	8.49	5.87	3.83	9.54	3.07	16.20		
Molybdenum	0.020	0.010	0.023	0.015	0.040	<0.05	n/a	0.030		
Nickel	0.11	0.04	0.14	0.07	0.07	0.28	0.06	0.24		
Selenium[d]	**6.17**	1.74	**6.51**	0.41	**8.31**	**7.78**	2.19	**9.51**	4.0[e]	[f]High: 7.3; Medium: 14.5; Low: 75
Strontium	19.00	7.11	11.40	1.45	1.95	13.60	3.30	26.00		
Thallium	0.011	0.002	0.012	0.003	0.007	0.007	0.002	0.010		
Zinc	51.3	21.0	36.2	15.3	23.1	44.3	14.9	61.4		

Notes: All units are mg/kg wet weight unless otherwise specified. Whole-body samples were analyzed without head tissues (Refer to Section 2.4.5.1 for more details).
*SD=Standard deviation, n=sample size, *Reference site, Ind=Independence Creek, LA=Los Angeles Creek*
[a]Health Canada mercury guidelines range from 0.2-0.5 for subsistence consumers (Health and Welfare Canada 1979) and maximum allowable level for sale (Canadian Food Inspection Agency 2011), respectively
[b]Methylmercury is estimated based on 83% of total mercury for slimy sculpin (Raymond and Rossmann 2009)
[c]Canadian Council of Ministers of the Environment tissue residue guideline (CCME 2000) to protect piscivorous wildlife from methylmercury toxicity
[d]Selenium is reported in mg/kg dry weight
[e]British Columbia Ministry of Environment aquatic life (whole-body) selenium guideline (BC MOE 2014) for the protection of freshwater aquatic life
[f]British Columbia Ministry of Environment human consumption selenium screening values for low (0.03 kg/day), medium (0.11 kg/day), and high (0.22 kg/day) fish intake (BC MOE 2014)
***Bolded** values exceed guidelines for the protection of aquatic and piscivorous wildlife; Grey Highlighted values exceed Human Health Guidelines*

3.5.4 Arctic Grayling Diet

Coffee Creek Arctic grayling primarily fed on dipteran species (50%), followed by mayflies (*Ephemeroptera*=27%), caddisflies (*Trichoptera*=16%), and stoneflies (*Plecoptera*=3%) (Figure 26; Appendix F6). The remaining stomach contents consisted of low abundances of annelids, and species from the orders *Coeloptera, Hemiptera*, and *Chelicerata*. The number of prey items per fish was relatively high, with an average of 218 items per fish. During sampling, it was often noted that stomach fullness was high for Latte and Coffee Creek Arctic grayling. While this only provides a snapshop of diet, it is worth noting that none of the Arctic grayling sampled were piscivorous. Low frequencies of Arctic grayling piscivory have been documented elsewhere in Yukon and NWT streams (e.g., Bishop 1967; de Bruyn and McCart 1974; Mathers 1981; Jessop *et al.* 1993).

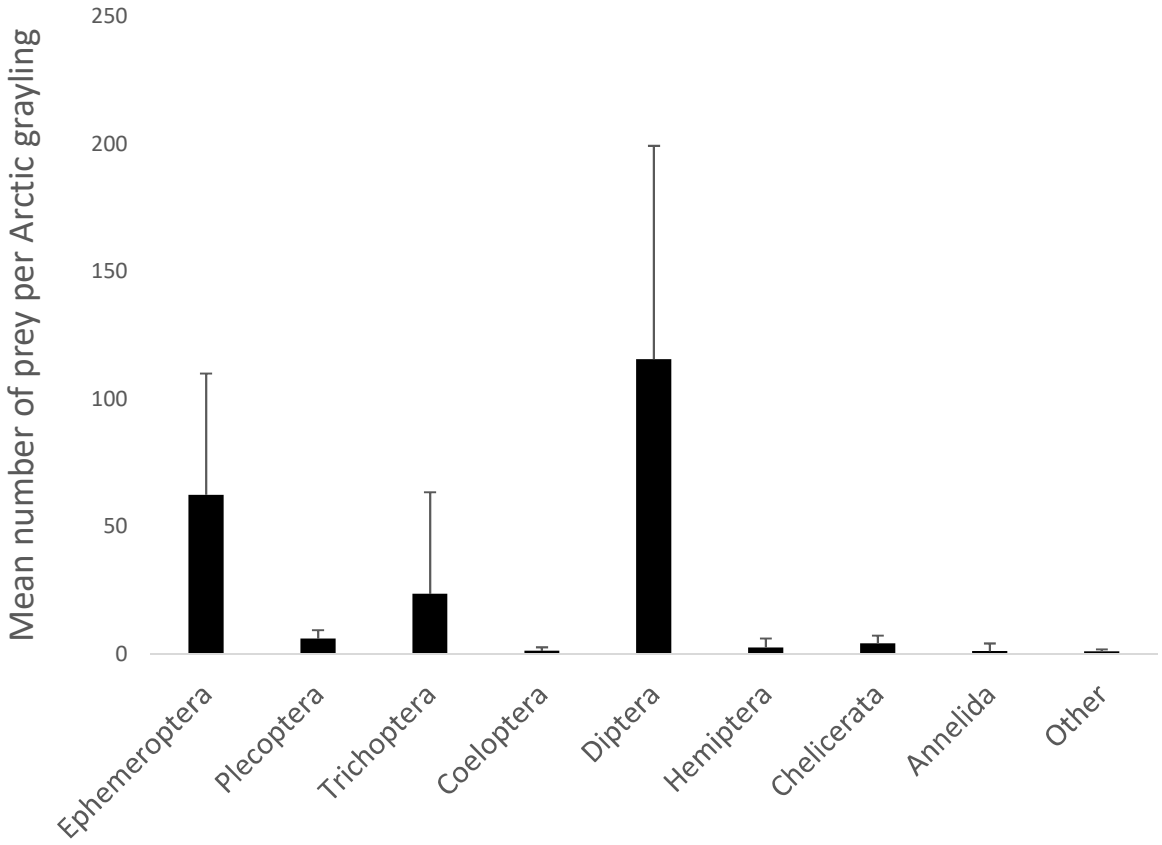

Figure 26. Mean number of prey per Arctic grayling, Coffee Gold Project, 2014-2015. Results are an average based on two grayling from Latte (AQ04) and five grayling from mainstem Coffee Creek (AQ02). Bars represent standard deviation

3.5.5 Arctic Grayling Tagging Program Results

Out of 31 Arctic grayling tagged in late August, 2014, four individuals were re-captured in late July, 2015. All four Arctic grayling were tagged and re-captured at the same site in mid Latte Creek, AQ04. Based on

external observations, all four grayling were likely male and varied from 244 – 357mm in length. Two grayling were determined to be in their eighth year based on scale ageing analysis. Growth between tagging and re-capture (change in length) was negligible and in all cases fish weight had decreased, with reductions of approximately 15-60g observed. Although there is room for measurement error with live fish, these findings suggest that the beginning of the 2015 growth season may have been poor, and/or that the bulk of growth was yet to occur.

3.5.6 Spawning Surveys

3.5.6.1 Salmon Spawning Surveys

In 2014, salmon spawning surveys were completed on Coffee and Independence Creeks in late August and early October, and also on the Yukon River proximate to the study area in October (Table 6). In 2015, salmon spawning surveys were completed on Coffee, Independence, and the Yukon River throughout a week of sampling in late July. No evidence of spawning was observed in either Coffee or Independence Creeks during any sampling period. However, in fall 2014 several salmon were spotted in a Yukon River side channel adjacent to the Coffee Creek camp (UTM: 7V 0596480 6977159), and are assumed to have been chum salmon due to the timing of the survey.

3.5.6.2 Arctic Grayling Spawning Survey

A total of 16 Arctic grayling were captured and visually assessed for spawning condition at two sites in Latte Creek from June 18 – 23, 2015. Approximately 200m of stream length was surveyed at AQ03, just upstream of the Latte Creek confluence with Coffee Creek, and an additional 120m of stream length was surveyed at AQ04 which is a high density summer feeding site. Fish habitat at AQ03 had low potential for supporting Arctic grayling spawning, with a small percentage (<5%) of unembedded gravel substrate noted (Stewart *et al*., 2007a). Habitat at AQ04 in the mid-section of Latte Creek had moderate to good potential for supporting Arctic grayling spawning based on suitable channel size, flow, and a high percentage of unembedded gravel substrate. Prior to electrofishing, the stream lengths were walked and fish were observed to determine any potential spawning behavior such as territory guarding, spawning congregations, or any courtship displays (*e.g.,* pairing up). No spawning behavior was noted, and electrofishing commenced. Lengths of captured Arctic grayling suggested a mature size (220-316mm). An external check of secondary sexual characteristics was made for each fish, and all fish appeared to be in the resting stage *i.e.,* spawning colours were not as apparent, the genital opening was not inflamed, the body cavity did not feel empty (as you would expect for a fish that had recently spawned), and no roe or milt was expelled when applying pressure to the body cavity (RIC 1996).

Dissection of six Arctic grayling samples (n=2 from AQ03, n=4 from AQ04; two females and four males total) provided a more in-depth assessment of gonad development and confirmed results based on external observations. The gonads only partly filled the body cavity, and showed no sign of recent expulsion. Female fish eggs were approximately 1mm diameter, which is less than 1/2 the size of grayling that are ready to spawn (2.5-2.7mm, Figure 27, Stewart *et al*., 2007a). The rate of gonad development suggests that Arctic grayling in Latte Creek had already spawned and begun re-development for 2016. As 2015 was an early spring, Arctic grayling spawning which typically coincides with the ice break-up may

have occurred as early as the beginning of May in nearby systems. Furthermore, gonadal development of Yukon Arctic grayling is typically accelerated due to the shortened northern growing season, and thus the state of maturity observed further supports the theory of early spawning and subsequent gonadal generation (*pers. comm*., von Finster, 2015). All six of the Arctic grayling stomachs were completely full, suggesting heavy active feeding in the stream. In contrast, spawning Arctic grayling are known to only passively feed before and during spawning activities (Stewart *et al*., 2007b).

Figure 27. Arctic grayling egg size, AQ04 in mid Latte Creek, Coffee Gold Project, June 23, 2015.

Stream temperatures from Latte Creek were recorded using an in-stream temperature logger located at AQ03 that ran from June 1, 2014 – September 2015 (Figure 28). Temperatures at this site were colder than preferred Arctic grayling spawning temperatures (above 4°C, with daily means between 6-10°C) throughout the expected spawning period of mid-May to mid-June (Stewart *et al*., 2007a). Further, mean daily temperatures were only reaching 5°C in early July, well past ice break-up and indicative of a permafrost-dominated system. While completing the Arctic grayling spawning assessment, spot temperatures measurements were obtained at several sites along Latte Creek and compared to the in-stream temperature logger record. Stream temperatures at AQ04 were warmer than those recorded at AQ03, with a maximum discrepancy of 1.8°C. Taking this potential difference into account, Latte Creek stream temperatures in the mid-watershed (AQ04) may have reached the bottom of the preferred spawning temperature range by early July.

Results from the Arctic grayling spawning assessment on Latte Creek suggested that spawning likely occurred elsewhere, either in Coffee Creek or even in other watersheds nearby. Stream temperatures were marginal at best for supporting spawning activities, and Arctic grayling behavior and gonadal development all indicated that the fish were in a “resting” maturity state. Furthermore, active feeding suggests that the Arctic grayling were beyond their spawning period and had entered their summer feeding stage.

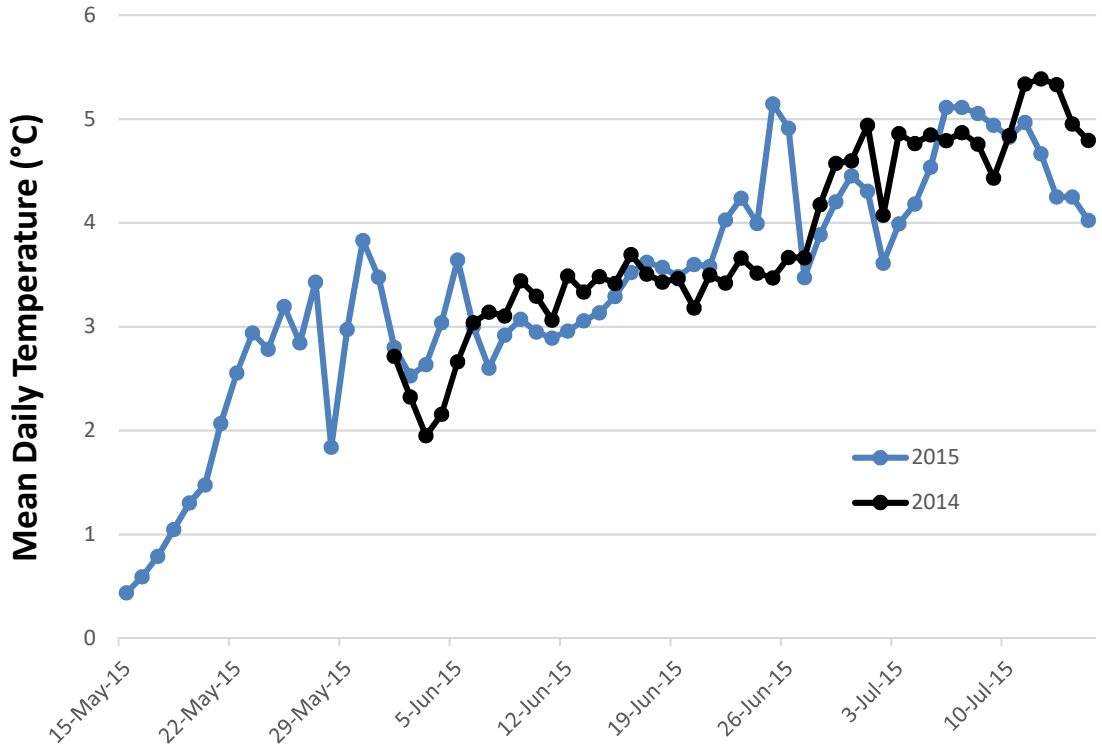

Figure 28. Mean Spring – Early Summer Daily Temperatures at AQ03 in lower Latte Creek, Coffee Gold Project, 2014-2015.

4 Summary

The fish and aquatic resources study program was conducted at 18 fish sampling sites, 17 fish habitat sites, and 12 benthic invertebrate, periphyton, and sediment sites throughout the project study area in August and October, 2014, and in March, June, July, and September, 2015. Watersheds within the local study area are Coffee Creek, Independence Creek, YR24 (between Coffee and Halfway Creeks), and Halfway Creek, with two reference sites located in Isaac and Los Angeles Creeks. Quality of fish habitat was assessed through investigations of aquatic communities (e.g., periphyton, benthic invertebrates), physical fish habitat parameters (e.g., stream size, gradient, habitat type), and physicochemical fish habitat parameters (e.g., sediment quality). The Coffee Gold study area provided non-natal rearing habitat for juvenile Chinook salmon, which is a highly valued CRA fish species in the Yukon. Adult and sub-adult Arctic grayling had the most widespread distribution in the Coffee Gold study area, with Latte Creek supporting high density summer feeding habitat. Currently, there are no known fish species at risk in the regional area of the Project.

4.1 Sediment Quality

Of the seven metals with CCME sediment quality guidelines, exceedances were observed for two: arsenic (As), and chromium (Cr). There were no exceedances recorded for mercury. Arsenic exceedances occurred at every station for the ISQG. Arsenic also exceeded the PEL at AQ05, AQ13, and AQREF1, which are in headwater areas adjacent to the deposit (AQ05, AQ13), or proximate to the Yukon River (AQREF1). The ISQG was exceeded for Chromium in the Kona tributary of Independence Creek (AQ13), as well as at the Los Angeles Creek reference site (AQREF2). Over 60% of the sediment particle sizes in the study area were less than 300 µm in diameter.

4.2 Periphyton and Benthic Invertebrates

Chlorophyll *a* was very low for all sites, which is typical of northern aquatic habitats. Ash-free dry mass (AFDM) values ranged from 0.38 - 1.07 mg/cm^2, with the highest values observed in Halfway Creek (AQ20) and Los Angeles Creek (AQREF2). Mean periphyton density was highest in YR24 (497,737 cells/cm^2) and lowest in upper Latte Creek (68,802 cells/cm^2). Blue-green algae (*Cyanophyta*) was the most dominant algal group in the study area, making up approximately 80% of the overall community composition. Mean taxonomic richness in the Coffee Gold study area was overall low, ranging from 10-14 taxonomic groups. Mean biodiversity ranged from 0.99 at AQ05 to 1.74 at AQ10.

Overall, Los Angeles Creek displayed the highest total abundance of benthic invertebrates (3210), followed by Independence Creek (2092), YR24 (1291), Coffee Creek (762), Halfway Creek (466), and then Isaac Creek (306). EPT abundances within the study area demonstrated similar patterns to overall abundance, with a significant relationship observed between the two indices. Dipterans were the most dominant benthic invertebrate group in the project study area, making up approximately 50% of the overall community composition. Benthic invertebrate taxonomic richness was highest at AQ02 in the Coffee Creek watershed (34 taxa), and lowest at the Independence Creek Kona tributary (18 taxa). Simpson's diversity values displayed similar patterns to those observed for taxonomic richness.

4.3 Fish and Fish Habitat:

Fish habitat quality was greatest in the mainstems of Coffee and Independence Creeks due to their large sizes, ample in-stream cover, and the presence of a wide variety of habitat types available including potential overwintering habitat. Good Arctic grayling summer feeding habitat was available in the lower reaches of Latte Creek. In Halfway Creek, there was marginal fish habitat for Arctic grayling available in the lower watershed (AQ20). YR24 was even smaller and steeper than Halfway Creek, with little to no pool habitat observed for fish rearing (*e.g*. water depths were generally less than 20cm). A high gradient barrier to fish passage was identified on upper YR24, just upstream of the aquatic site AQ31. Site AQ12 in the lower Kona tributary had much lower habitat quality than the mainstem of Independence Creek as water depths were low, and there were few pools noted for supporting fish feeding or rearing. Sites in the upper watersheds of Latte Creek (AQ04.5, AQ05, AQ06), Independence Kona tributary (AQ13), Halfway Creek (AQ21) and YR24 (AQ31) contained lower quality habitat for fish due to higher gradients, lack of deep pools, and many natural obstructions to fish passage. No fish were caught at these headwater sites using two sampling methods over two seasons (spring and summer), however one grayling was observed

at AQ04.5 in summer 2015. Latte Creek Tributary C, which intersects with the proposed south waste rock storage facility, was a small, shallow, medium gradient channel with low suitability for supporting Arctic grayling.

Slimy sculpin, juvenile Chinook salmon, and Arctic grayling were commonly found in fish-bearing project area streams. Currently, there are no known fish species at risk in the regional area of the Project. Juvenile Chinook salmon were present in the mainstems of Coffee Creek and Independence Creek, but were not captured in Latte Creek, Kona Tributary of Independence Creek, Halfway Creek, or YR24. Slimy sculpin overlapped juvenile Chinook salmon in distribution, but were also present at the downstream end of Latte Creek (AQ03), and at the mouth of YR24 (AQ30). Arctic grayling were captured at all sites, with the exception of YR24 (AQ30, AQ31), upper Halfway Creek (AQ21), upper Latte Creek (AQ05, AQ06), and upper Kona Tributary (AQ13). Site AQ04 on Latte Creek had the highest number of Arctic grayling captured, with a total catch of 70 sub-adult and adult grayling (>128mm). Two years in a row, sampling in lower Halfway Creek (AQ20) produced a single adult Arctic grayling. Low numbers of Arctic grayling were captured in the lower Kona Tributary site, AQ12. In 2014, a reference site was established near the mouth of Isaac Creek, which contained high numbers of juvenile Chinook salmon, slimy sculpin, and low numbers of juveniles from four other fish species. In 2015, low numbers of juvenile Chinook salmon, Arctic grayling, and slimy sculpin were captured at a second reference site located on Los Angeles Creek, approximately 6km upstream from the Yukon River.

Juvenile Chinook salmon were captured in high numbers along the mainstem of Coffee Creek upstream to its confluence with Latte Creek, however capture rates were much higher in summer 2014 (8-15x) than in summer 2015. For example, during the August 2014 sampling a total of 122 juvenile Chinook were caught using ten minnow traps set overnight at AQ00; 72 were caught at AQ01, and 62 were caught at AQ02. In the mainstem of Independence Creek lower numbers of juvenile Chinook salmon were captured in both 2014 and 2015. Catch per unit effort was slightly lower at all sites in October 2014, however, the presence of juvenile Chinook late in the season suggested that overwintering occurred at most sites in mainstem Coffee and Independence Creeks.

Slimy sculpin (n=37) samples were collected from AQ02, AQ03, AQ10, AQREF1, and AQREF2 for analyzing baseline metal concentrations in tissues. Mean estimated methylmercury concentrations exceeded the guideline for the protection of fish-eating (piscivorous) wildlife in all watersheds. Individual slimy scupin samples in Latte and Coffee Creeks also exceeded the human health guideline for subsistence consumers (0.2 mg/kg wet weight). No samples at any sites exceeded the maximum allowable level of mercury for sale guideline. Mean selenium concentrations in slimy sculpin tissues exceeded the selenium guidelines for the protection of freshwater aquatic life in all watersheds. Individual samples in Coffee, Independence, Isaac, and Los Angeles Creek exceeded the selenium human health guideline for high consumers of fish (1-2 samples per watershed/year). The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual slimy sculpin samples.

Arctic grayling (n=26) samples were collected from AQ00, AQ02, AQ03, AQ04, AQ11, and AQREF 2 for analyzing baseline metal concentrations in tissues. Mean estimated methylmercury concentrations exceeded the guideline for the protection of fish-eating (piscivorous) wildlife in all watersheds, but did not surpass Health Canada standards for mercury levels in fish. The mean selenium concentrations did not

surpass the human health guidelines for selenium with the exception of Independence Creek samples, which exceeded the lowest guideline, provided for high consumers of fish. In addition, approximately 33-38% of individual samples in all watersheds exceeded the lowest guideline provided for high consumers of fish, with the exception of Arctic grayling in Latte Creek, which were all below the guideline. The human health selenium guidelines based on moderate and low fish diets were not exceeded by any individual Arctic grayling samples.

Similar to results from previous years (Sparling 2001; Laberge and White Mountain 2002), no Chinook salmon were observed spawning in Coffee and Independence Creeks in 2014 or 2015. Results from the Arctic grayling spawning assessment on Latte Creek suggested that grayling likely spawned elsewhere prior to entering the creek for summer feeding. Stream temperatures were marginal at best for supporting spawning activities, and Arctic grayling behavior and gonadal development all indicated that the fish were in a "resting" maturity state.

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Appendix A

Review of Existing Fisheries and Aquatic Community Information, Coffee Gold Project, Yukon

PALMER ENVIRONMENTAL CONSULTING GROUP INC.

470 Granville Street, Suite 630, Vancouver, BC V6C 1V5 t 604-629-9075

June 5, 2014

Rory Kutluoglu
Kaminak Gold Corporation
1020 - 800 West Pender Street
Vancouver, British Columbia
V6C 2V6, Canada

Dear Mr. Kutluoglu,

Re: Review of Existing Fisheries and Aquatic Community Information, Coffee Gold Project, Yukon

Palmer Environmental Consulting Group (PECG) was retained by Kaminak Gold Corporation to identify and compile any existing fish and aquatic community (e.g., benthic invertebrate, periphyton) data within the Coffee Gold Project area. The purpose of the review was to determine if any existing data or noted data deficiencies could be incorporated into the baseline dataset and/or be used to guide the development of the baseline study design. A desktop review of pre-existing information was completed and consisted of environmental consultant aquatic study reports, government databases and reports, academic literature, salmon management advisory bodies (e.g., Yukon River Panel reports), and baseline data collected by PECG on upper Coffee Creek. Documents and databases which were found to include relevant information are listed below:

- Access Consulting Group. 2014. Memorandum: Kaminak Coffee 2013 Fisheries Summary Report. Prepared for Kaminak Gold Corporation, May 30, 2014.
- Fisheries and Oceans Canada. 2001. Yukon Fisheries Information Summary System (FISS) and Fish Sampling. Accessed April 2014 at http://cmnmaps.ca/fiss_yukon/.
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- Laberge Environmental Services and White Mountain Environmental Consulting. 2012. Investigations into the Implications of Regional Background Low-level Concentrations of Dissolved Copper to the Freshwater Fishes of the Yukon River, 2010. Prepared for Selkirk First Nations.
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- Yukon Placer Secretariat, 2010. Yukon Placer Fish Habitat Suitability Map – Yukon River South Watershed (Map 1 of 7) (Category A). Revised September 2010. Accessed April 2014 at http://www.yukonplacersecretariat.ca.

Furthermore, one additional report was referenced on the FISS database, but could not be accessed at this time:

- Duncan, J. 1997. Summary of Streams in the Tr'on dek Hwech'in Traditional Territory: A search for Candidate Streams to Support a Program based on a Klondike Area Central Incubation/Outplanting Facility. Prepared by Duncan Contracting.

Fish and Aquatic Resources Baseline Review Results:

1. Fish and Fish Habitat in Lower-Mid Coffee Creek

Fisheries sampling and aquatic habitat assessments were carried out in lower-mid Coffee Creek (Figures 1 and 2) during 2000 (Sparling 2001), 2001 (Laberge and White Mountain 2002), 2010 (Laberge and White Mountain 2012) and 2013 (Access 2014). A summary of the fish habitat assessment results, sampling effort, and fish catch are provided in Tables 1 and 2.

Just upstream of its confluence with the Yukon River, Coffee Creek had an average channel width of 25m (Figure 3, Table 1), and was noted to provide excellent fish habitat for a variety of fish species and life history stages (Sparling 2001). Habitat required for supporting overwintering and spawning activities were observed, such as deep pools and abundant gravel substrates. Fish sampling over multiple years demonstrated that lower Coffee Creek supported high abundances of juvenile Chinook salmon, as well as slimy sculpin, and Arctic grayling fry and juveniles (Table 2). Individual fish measurements were collected and reported for juvenile Chinook salmon and slimy sculpin in 2010 (Table 3).

During 2013, Coffee Creek was sampled with minnow traps at sites that ranged from 2-8 km upstream from the Yukon River (Figure 2, Table 2). High numbers of juvenile Chinook salmon were captured in late October at CC-0.5, with a CPUE of 13.7 fish/trap-day. Sampling in the adjacent western tributary (Site CC-3.5) yielded two juvenile Chinook salmon in August, with no fish caught in late July, September, or October. No fish were caught further downstream at site CC-4.5 in late July, August, or September, with only one juvenile Chinook salmon and one slimy sculpin captured in late October. The timing and size (mean length = 71 mm) of the captures from this study indicated that mid Coffee Creek was heavily used by 0+ juvenile Chinook salmon for overwintering.

Chinook salmon spawning surveys were conducted on Coffee Creek during field studies in 2000 and 2001 (Sparling 2001; Laberge and White Mountain 2002). The timing of both spawning surveys were decided in consultation with Fisheries and Oceans Canada (DFO). There was no evidence for Chinook salmon spawning in Coffee Creek during an aerial spawning survey completed on August 17, 2000 (Sparling 2001). Results from the 2001 study were not detailed in the report. Despite the lack of documented spawning observations, Selkirk First Nations elders reported that the river was a significant spawning location in the past (Laberge and White Mountain 2002).

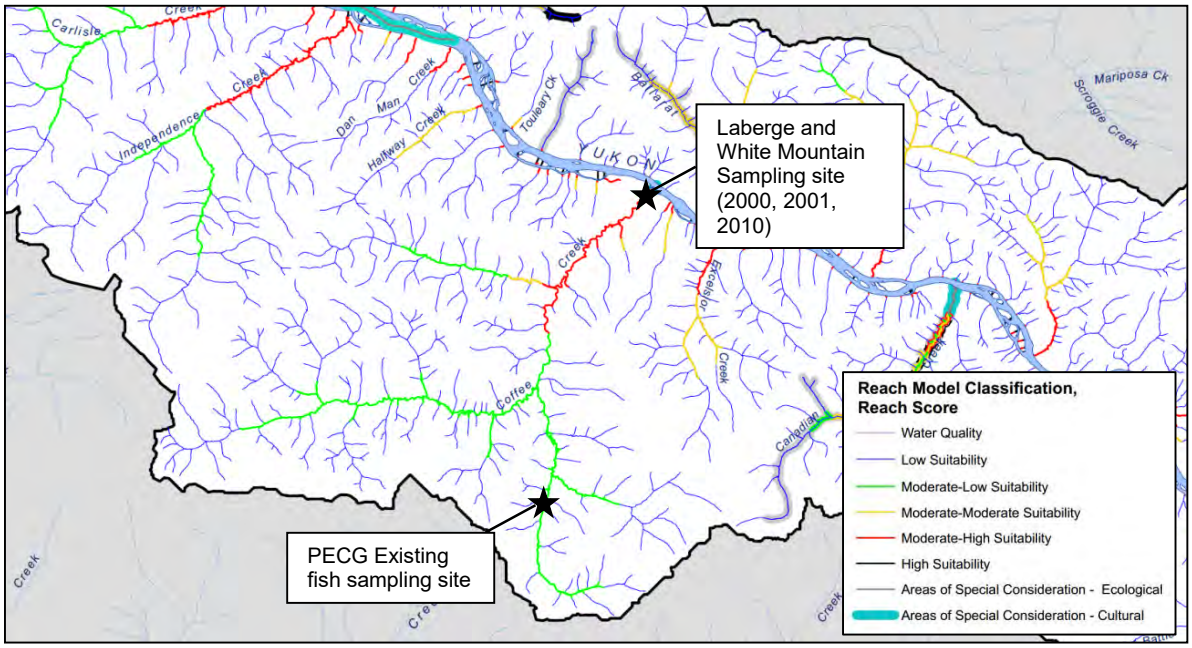

Figure 1. Excerpt of Coffee Project Study Area from Yukon Placer Fish Habitat Suitability Map – Yukon River South Watershed (Map 1 of 7). Black stars indicate fisheries sampling sites on Coffee Creek established by Laberge and White Mountain (2000, 2001, 2010) and PECG (2012-2013).

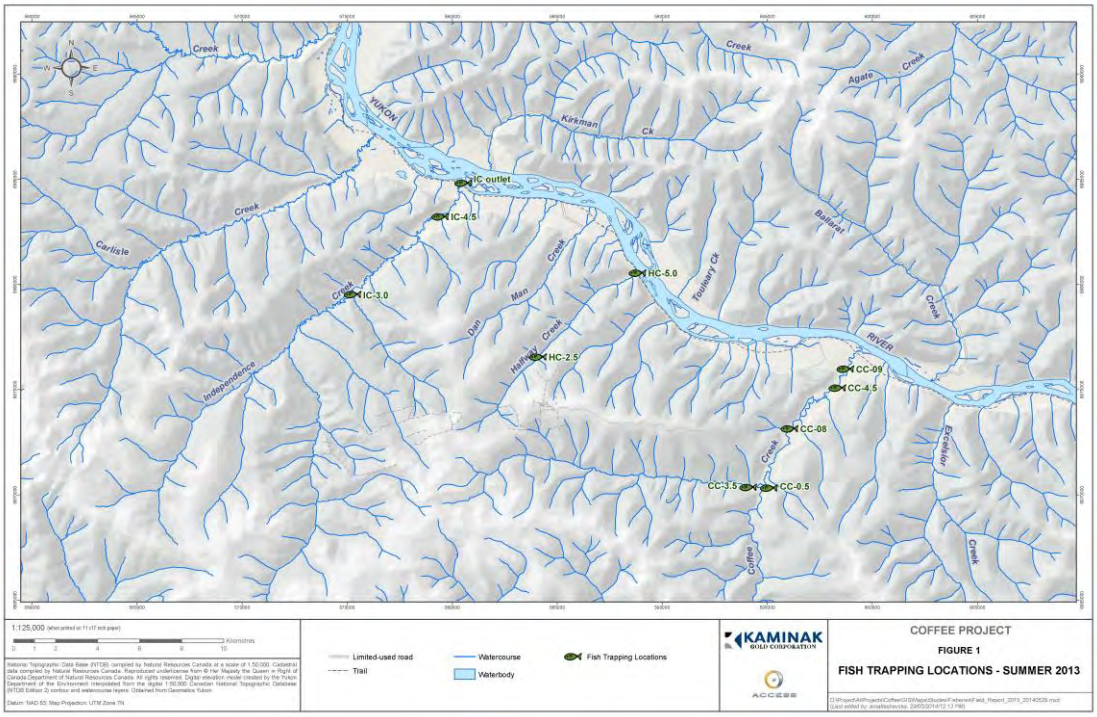

Figure 2. Fish Minnow Trapping Locations in the Coffee Project Study Area, Summer 2013 by Access Consulting

Figure 3. Lower Coffee Creek photo obtained from Laberge and White Mountain (2012)

Table 1. Fish Habitat Assessment Results from Sparling (2001) and Laberge and White Mountain (2012)

Date sampled	**July 27, 2000**	**July 28, 2001**	**August 3, 2010**
Average Channel Width	25m	-	24.7m
Wetted Width	-	-	11.4m
Average Depth	1m	-	-
Average Velocity	1 m/s	0.9 m/s	0.572 m/s
Discharge	36 m^3/s	15 m^3/s	-
Water temperature	5.6°C	7.6°C	10.8°C
Conductivity	-	76 µS/cm	126.8 µS/cm
Dissolved Oxygen	-	9.44 mg/L 78.2%	9.33 mg/L
Water quality CCME guideline exceedances	-	Extractable Copper[1]: July :0.0035 mg/L August: 0.0027 mg/L *Cu guideline: 0.002 mg/L*	Dissolved Copper: August: 0.00251 mg/L *Cu guideline: 0.002 mg/L*
Substrate	20% cobble, 60% gravel, 20% sand	20% cobble, 60% gravel, 20% sand	-
Morphology	50% run, 25% riffle, 25% pool	50% run, 25% riffle, 25% pool	Riffle, rapid, straight run and pool
Riparian vegetation	Willow, alder, poplar	-	Grasses, shrubs and deciduous, with deciduous dominant
Water clarity	"Coffee" coloured with some suspended solids	-	Total Suspended Solids: <4 mg/L Total Dissolved Solids: 110 mg/L Turbidity: 0.3 NTU

Notes: "-" =Not sampled, CCME=Canadian Council of Ministers of the Environment, [1]Methods for analyzing copper concentrations differed in 2001, see Laberge and White Mountain (2002)

Table 2: Summary of lower-mid Coffee Creek fish sampling effort and catch (Sparling 2001, Larberge and White Mountain 2002, 2012, Access 2014)

Date	Method	Effort	Catch	Comments
July 27, 2000	MT	14 traps for 24h	13 jcs/trap/24h, 8 CCG	Total catch of juvenile Chinook salmon not specified
July 27, 2000	Seine	7m x 1.5m, 1/8 inch oval weave mesh, pole seine in depths of <1.5m	CCG, GR	Catch numbers not reported
July 28, 2001	GN	2h	NFC	
July 28, 2001	EF	507s	8 jcs, 22 CCG	
July 28, 2001	Seine	4m x 6m x 3	3 CCG	
August 3, 2010	MT	8 traps overnight	32 jcs, 1 CCG	Soak time not specified
August 3, 2010	EF	633s	7 jcs, 24 CCG	
July 31 – Aug 1, 2013	MT	Trap-days: CC-0.5: 1.89 CC-3.5: 2.03 CC-4.5: 2.01	NFC	
Aug 21-22, 2013	MT	Trap-days: CC-0.5: 1.69 CC-3.5: 1.72 CC-4.5: 1.77	CC-0.5: 1 jcs CC-3.5: 2 jcs CC-4.5: NFC	
Sep 25-26, 2013	MT	Trap-days: CC-0.5: 2.00 CC-3.5: 2.11 CC-4.5: 2.24	CC-0.5: 8 jcs CC-3.5: 1 jcs CC-4.5: NFC	
Oct 28-29, 2013	MT	Trap-days: CC-0.5: 2.04 CC-3.5: 2.09 CC-4.5: 1.89	CC-0.5: 28 jcs CC-3.5: NFC CC-4.5: 1 jcs, 1 CCG	

Notes: MT=Minnow trap, GN=gill net, EF=electrofishing, jcs=juvenile Chinook salmon, CCG=slimy sculpin, GR=Arctic grayling, NFC=no fish caught

Table 3. Lower Coffee Creek individual length and weight measurements for juvenile Chinook salmon and slimy sculpin, August 2010 (Laberge and White Mountain 2012)

Species	Sample size	Mean Length (mm)	Length range (mm)	Mean Weight (g)	Weight range (g)
Chinook salmon	26	77.7	72-93	2.9	1.9-8
Slimy sculpin	18	62.2	40-82	1.97	0.4-3.4

2. Fish and Fish Habitat in Upper Coffee Creek

Baseline fisheries data on upper Coffee Creek is available from PECG (2013a), as a reference site was established there as part of the adjacent Casino Mine Project in 2012 (Figures 1 and 4). Two years of sampling at this site yielded a total of 12 Arctic grayling and one round whitefish at a rate of 0.8 fish per 100s of electrofishing effort. Arctic grayling lengths varied from 150-250mm, which suggested that the upper reach of Coffee Creek predominantly supported sub-adult and adult rearing. The single round whitefish captured was 265mm in length. A habitat assessment of the site was carried out in 2013, with detailed results reported in Appendix A4 of the 2013 Aquatic Studies Technical Memo (PECG 2013b). Briefly, the site was low gradient (2%) with a mean channel width of 3m, and followed a run-riffle sequence (Figure 4). Abundant overhanging vegetation and undercut banks provided good quality seasonal rearing habitat, however, a lack of deep pool habitat likely precluded fish overwintering. The bed substrate was dominated by large cobble and fines, suggesting a low potential for salmonid spawning activities.

Figure 4. Upstream view at PECG Reference Site on Upper Coffee Creek, July 2013

3. Yukon Placer Fish Habitat Suitability Maps

Based on the Yukon Placer Fish Habitat Suitability mapping, lower reaches of Coffee Creek were classified as **moderate-high** suitability and thus contain highly suitable habitat for juvenile Chinook salmon rearing, as well as high quality habitat for a broad range of adult and juvenile resident fish species (Figure 1). There was no Coffee Creek habitat designated as high suitability, which are defined as watercourses that provide spawning habitat for salmon or critical migratory corridors required to access salmon spawning areas. There is, however, a Cultural Area of Special Consideration located at the most downstream end of Coffee Creek. Cultural Areas of Special Consideration are watercourses that are identified by First Nations as containing culturally important fisheries or aquatic resources, and may also include anadromous (e.g., Chinook salmon) or non-anadromous fish production. Further upstream were areas of moderate-moderate suitability (yellow), moderate-low suitability (green), and low suitability (blue) (Figure 1). The Yukon Placer Secretariat defines these habitat types as:

- **Moderate-moderate** suitability habitats are defined as watercourses that are suitable for rearing juvenile Chinook salmon, although the habitat parameters and conditions are not as restricted as moderate-high suitability habitats within the watershed. These watercourses are also highly suitable for a broad range of adult and juvenile resident fish species.

- **Moderate-low** suitability habitats are defined as watercourses suitable for rearing juvenile Chinook salmon, although utilization may be limited at times due to environmental factors or conditions. These watercourses are typically highly suitable for non-anadromous resident fish species such as Arctic grayling.

- **Low** Habitat Suitability Watercourses (formally Freshwater Fisheries Production Zone) are areas within watercourses that are utilized by a variety of fish species and are typically relatively abundant within a watershed. As a function of gradient and distance from Chinook salmon production areas these streams are likely not utilized by rearing juvenile Chinook salmon, but may be highly suitable for and used by non-anadromous resident fish species.

4. Yukon Fisheries Information Summary System (FISS) Database

The Yukon FISS database was reviewed for determining previous fish studies or information relating to Coffee Creek. Notably, the database was last updated in 2001, and does not include any potential information gathered over the past 13 years. In addition to the work conducted by Laberge Environmental Services and White Mountain Environmental, the FISS database references the Yukon Placer Secretariat (Reference #800001), summarized above, and Duncan 1997 (Reference #DFO0016), which is not accessible for review at this time. Personal communications with Siegi Kriegl, a Fisheries Officer Fishery out of DFO Whitehorse were recorded in 1996 (Reference #11055), and indicated unconfirmed reports of chum salmon spawning in lower Coffee Creek, as well as an operational commercial fishery in the Yukon River off the mouth of Coffee Creek. Within the list of personal communications with Mr. Kriegl, there is also reference to Chinook salmon, and round whitefish, with no further details available (Reference

#11055). Also in 1996, personal communications with Nick De Graff from the Department of Renewable Resources, Yukon Territorial Government (Reference #11063), indicated that there was a First Nations fishery on Coffee Creek.

5. Benthic Invertebrates and Periphyton

Benthic invertebrate sampling on Coffee Creek was carried out in July 2001, and on August 3, 2010 (Laberge and White Mountain 2002, 2012). In 2001, sampling was conducted using a 300µm mesh surber sampler with an area of 0.0929 m^2. The benthic invertebrate community in Coffee Creek exhibited the lowest density (204 individuals/m^2) and diversity (14 taxon) of the eleven Yukon River tributaries sampled (Laberge and White Mountain 2002). In addition, the Coffee Creek benthic invertebrate community had the highest (61%) and lowest (19%) relative percentage of Ephemeroptera (mayflies) and Diptera (true flies), respectively.

The benthic invertebrate survey on Coffee Creek in 2010 employed a 363µm mesh kick-net and followed Canadian Aquatic Biomonitoring Network (CABIN) sampling protocols (Appendix D, Laberge and White Mountain 2012). In opposition to results from 2001, Lower Coffee Creek had the highest benthic invertebrate density of the 17 Yukon River tributaries sampled, with 9500 individuals/sample. The noted difference in benthic invertebrate density between 2001 and 2010 may be attributed to a change in community structure between the two time periods, or a difference in sampling methods (Page & Sylvestre 2006[1]). Taxa richness was moderate (18 taxa) and Simpson's diversity was high (0.85) relative to the other streams. Further, the number of sensitive EPT taxa present (15 taxa) was higher than 15 of the other tributaries sampled. Using the Yukon Reference Model which incorporates a database of 439 reference sites throughout the Yukon River drainage, Coffee Creek was determined to be a potentially stressed system and not in reference condition.

No existing information on primary producers (e.g., periphyton) in Coffee Creek was identified during this review.

6. Other watercourses:

Other watercourses within the potential project area include Halfway Creek, Dan Man Creek, and Independence Creek, which are located west of Coffee Creek and north (downslope) of the potential project activities (Figures 1 and 2). Minnow traps were deployed on Halfway and Independence Creeks during summer 2013 (Access 2014). Low numbers of juvenile Chinook salmon and slimy sculpin were captured at sites in Independence Creek, whereas a single Arctic grayling (length=125mm) was captured in Halfway Creek (Table 4). As only minnow traps were used, other fish sampling methods (e.g.,

[1] Page, N., and Sylvestre, S. 2006. Comparison of Two Benthic Invertebrate Sampling and Analysis Methods for Streams in Greater Vancouver. Available online at: http://www.raincoastappliedecology.ca/. (Accessed May 2014).

electrofishing, seining) are recommended for further characterizing the fish communities in these creeks. The presence of juvenile Chinook salmon in Independence Creek in late October suggested that some overwintering may occur in this system.

The Yukon Placer Fish Habitat classifications for the three creeks currently range from moderate-high to low suitability (Figure 1). In agreement with the minnow trapping results, Independence Creek contains the most moderate-high habitat which extends for several kilometers upstream of the Yukon River. Halfway Creek contains a short reach of moderate-high suitability habitat, followed by moderate-moderate suitability, and then low suitability. Based on the suitability mapping, Dan Man Creek appears to have the lowest quality habitat of the three watercourses.

Minimal information was available for these watercourses on the FISS database. Search results indicated that there was suspected Chinook salmon rearing in all three creeks, as well as suspected northern pike rearing in Independence Creek. No further information was identified or reviewed for these creeks.

Table 4: Summary of minnow trapping effort and catch on Independence and Halfway Creeks (Access 2014)

Date	Effort (trap-days)	Catch	Comments
June 12-13, 2013	IC-4.5: 2.10 IC Outlet: 1.97	IC-4.5: 1 CCG IC Outlet: 1 CCG	
July 31 – Aug 1, 2013	IC-4.5: 1.82 IC-3.0: 1.94 HC-5.0: 2.14 HC-2.5: 2.13	IC-4.5: NFC IC-3.0: NFC HC-5.0: 1 GR HC-2.5: NFC	At IC-3.0 traps were set in the main branch of Independence creek, near the helicopter landing pad, not on the tributary where the WQ stations is
Aug 21-22, 2013	IC-4.5: 1.64 IC-3.0: 2.41 HC-5.0: 1.68 HC-2.5: 1.75	IC-4.5: 4 jcs IC-3.0: NFC HC-5.0: NFC HC-2.5: NFC	
Sep 25-26, 2013	IC-4.5: 1.96 IC-3.0: 2.32 HC-5.0: 1.78 HC-2.5: 1.41	IC-4.5: 2 jcs IC-3.0: 1 jcs HC-5.0: NFC HC-2.5: NFC	
Oct 28-29, 2013	IC-4.5: 1.82 IC-3.0: 1.77 HC-5.0: 2.13 HC-2.5: 2.04	IC-4.5: 1 jcs IC-3.0: 1 jcs HC-5.0: NFC HC-2.5: NFC	

Notes: jcs=juvenile Chinook salmon, CCG=slimy sculpin, GR=Arctic grayling, NFC=no fish caught

June 5, 2014

Rory Kutluoglu
Kaminak Gold Corporation

If there are any questions or comments on this report, then please contact the undersigned. Thank you for the opportunity to work with you on this project.

Yours truly,

Palmer Environmental Consulting Group Inc.

[signature redacted]

Rick Palmer, M.Sc., R.P. Bio
President, Senior Fisheries Biologist

Appendix B

Sediment Quality

- **B1. Sediment Quality Data, Coffee Gold Project, 2014-2015**
- **B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015**

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ11-1	AQ11-PSD	AQ11-2	AQ11-3	AQ11-3R	AQ20-1	AQ20-PSD	AQ20-2	AQ20-3	AQ04-1	AQ04-PSD	AQ04-2	AQ04-3	AQ04-3R	AQREF1-1
				ISQG	PEL	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	28-Aug-14
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a	4.22		2.39	2.83	3.34	6.01		4.67	4.92	3.63		4.41	5.1	4.01	1.93
General Parameters	Moisture	% wet	0.1	n/a	n/a	56.8		50.1	44.9	56.6	74.6		59.1	69.9	60.4		60.9	NS	NS	64.4
General Parameters	pH	pH units	0.1	n/a	n/a	7.1		7.1	7.2	5.8	7.6		7.4	7.5	7.6		7.2	7.6	7.8	5.9
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a	2.9		2	2	2	4		2.5	3.3	1.3		10	10	10	1.3
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a	4.6		2.3	2.1	3.9	4.3		1.4	1.1	1.6		8	1.4	3.4	1.1
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a	8		5	5	4	6		5	5	5		11	7	6	6
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a		<0.1					<0.1				<0.1				
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a		1.7					0.1				2.7				
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a		0.8					<0.1				1.3				
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a		4.1					1.9				9.4				
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a		6.2					4.3				17.7				
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a		5.5					2.7				6.8				
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a		9.8					4				6.4				
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a		20.7					12.7				13.9				
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a		16.2					16.7				13.5				
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a		34.9					57.5				28.4				
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a	2700		2600	2500	2300	5500		4200	5500	1800		4750	2170	2670	1400
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a	360		315	310	275	630		525	580	200		500	300	333	220
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a	77		73	76	61	118		69	113	56		133	102	102	39
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a	27		26	49	24	36		34	39	17		93	43	25	17
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a	21200		19200	19200	19100	17100		16000	17300	20100		27500	19200	20200	16600
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a	0.8		0.7	0.7	0.8	0.8		1	0.9	0.6		0.9	0.7	0.6	1.4
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17	14.2		15.1	13.1	14.5	13		11.2	14.2	12.3		19.5	12.5	12.8	13.5
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a	194		169	172	178	189		159	185	174		240	184	183	380
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a	0.5		0.5	0.5	0.6	0.4		0.5	0.7	0.7		1.4	0.8	0.7	0.5
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a	0.2		0.3	0.2	0.2	0.1		0.3	0.1	0.1		0.2	0.2	0.2	0.2
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a	3		2	2	2	3		2	3	2		4	2	2	2
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5	0.33		0.24	0.38	0.44	0.2		0.13	0.2	0.31		0.46	0.39	0.39	0.57
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a	7860		6510	7030	7220	8340		7430	8220	7060		11100	8380	8430	8190
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90	42.1		37.4	35.4	35.5	36.7		36.2	35.7	33.1		45.9	32.6	32.1	30.3
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a	12.2		11.3	11.4	11.5	10.7		8.9	10.8	10.7		12.1	11.8	12.1	10.1
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197	21.8		19.3	19.2	20.6	19.2		18.4	20.1	18.8		32.5	20.7	19.7	24.5
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a	28100		28800	26900	27800	23900		22300	23500	26300		32400	25700	25400	26400
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3	10.2		12.2	10.1	11.2	7.4		7.9	7.5	11.4		13.5	12.3	12.3	9.3
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a	14.9		14.6	14.8	15.9	12.4		11.7	13.3	15.5		23.4	19	19.8	11.5
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a	8210		7620	7050	6870	6750		6650	6780	6520		7570	5970	5570	7830
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a	704		511	656	680	650		294	516	771		711	697	712	353
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486	0.07		<0.05	0.07	0.06	0.05		<0.05	0.07	0.1		0.23	0.14	0.15	0.07
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a	0.8		1.1	0.8	0.9	0.5		0.5	0.5	0.6		0.9	0.7	0.6	0.8
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a	26.6		23.1	24	24.7	24.3		22.5	24.2	23		35.9	24.6	23.9	23.8
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a	703		685	735	752	681		678	727	611		926	597	600	978
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a	1680		1530	1360	1330	1430		1310	1350	1280		1860	1270	1180	1340
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a	0.6		0.5	0.7	0.7	0.6		<0.5	0.7	0.9		2.4	1.5	1.3	0.8
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000		<3000	<3000	<3000	<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a	396		385	367	342	314		287	317	303		308	246	279	328
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a	55.3		44.7	48.2	51.5	81.3		69.9	78.3	70.6		115	81.3	80.5	64.4
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000		1500	<1000	<1000	1100
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a	0.2		0.2	0.2	0.2	0.2		0.1	0.2	0.2		0.2	0.2	0.2	0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a	9.1		9.5	8.9	9.2	8.3		8.2	8.5	13		22.3	14.6	14.8	8.2
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a	0.8		0.7	0.9	0.7	0.6		0.7	0.6	0.6		1.2	0.6	0.8	0.7
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a	1360		1400	1260	1150	1030		920	973	1060		935	891	891	809
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a	7.9		6.4	9	11.4	13.4		14.3	11.3	6.7		13.2	10.1	12.9	5.1
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a	61.6		67.4	60.9	60.8	47.7		45.4	47.3	53.7		53.5	45.3	46.7	59.2
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315	86		73	85	92	65		62	63	86		118	88	95	88
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a	5		5	4	4	3		3	3	3		5	4	4	3

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQREF1-PSD	AQREF1-2	AQREF1-3	AQ00-1	AQ00-PSD	AQ00-2	AQ00-3	AQ02-1	AQ02-PSD	AQ02-2	AQ02-3	AQ05-1	AQ05-PSD	AQ05-2	AQ05-3
				ISQG	PEL	28-Aug-14	28-Aug-14	28-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	30-Aug-14	30-Aug-14	30-Aug-14	30-Aug-14
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a		2.25	2.6	2.97		3.63	4.67	3.51		2.58	7.08	6.12		5.99	7
General Parameters	Moisture	% wet	0.1	n/a	n/a		32.7	62.1	61.8		54.3	68.3	54.8		58.6	74.5	NS	NS	NS	NS
General Parameters	pH	pH units	0.1	n/a	n/a		7.1	6.8	7		7	7.3	7.2		7.3	7.2	5.7		6.8	6.9
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a		1.3	1.3	1.3		1.3	2.5	2		2	2	5		<1.0	10
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a		<1.0	<1.0	<1.0		1.2	2.6	1.1		1.1	<1.0	9.7		1.5	13
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a		3	4	4		4	5	5		4	4	5		5	6
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a	<0.1				<0.1				<0.1				<0.1		
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a	0.1				0.1				2.7				7.2		
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a	<0.1				<0.1				0.5				1		
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a	0.7				1				2.6				5.4		
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a	2.1				2.2				5.1				13.4		
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a	2				2.2				2.4				8.3		
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a	5.4				6.3				6				8.3		
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a	34.6				24				17.2				13.2		
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a	31.7				22.3				16.2				10.1		
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a	23.3				41.8				47.3				33.2		
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a		800	900	2100		2500	4000	2100		2500	5000	2500		1050	3750
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a		110	155	310		430	520	295		330	630	267		150	475
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a		27	24	57		127	114	59		83	72	192		38	183
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a		15	19	21		36	47	27		21	30	37		21	50
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a		11600	17100	18800		19600	21500	19400		17800	15800	20600		16500	20300
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a		1.4	2	0.7		0.5	0.7	0.6		0.5	0.7	0.8		0.7	0.8
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17		17.3	25.8	8.8		7.4	11.1	9.4		6.8	11.3	21.3		20	28
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a		267	469	193		192	219	205		175	295	176		225	177
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a		0.4	0.5	0.5		0.3	0.4	0.4		0.3	0.7	0.8		0.7	1.1
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a		0.1	0.7	0.2		0.2	0.2	0.2		0.1	0.2	0.2		0.2	0.2
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a		<2	2	<2		<2	2	<2		<2	2	2		<2	2
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5		0.31	0.65	0.22		0.23	0.25	0.26		0.2	1.3	0.58		0.42	0.56
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a		4680	8270	6560		6310	7280	7100		6190	11400	6000		5770	7120
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90		20.5	31.2	32.6		32.7	38.7	33.6		30.4	32.4	32.1		31.4	32.5
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a		8.3	11.8	10.1		10.9	10.9	11.1		9.3	9.5	13.7		22.4	12.3
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197		15.3	25.1	23.3		21.5	26.1	22.3		17.7	58.3	18.4		15.2	22.6
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a		23100	31800	25800		27400	28800	28100		24800	24600	29600		27400	29200
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3		8	12.2	8.4		6.7	8.9	7.6		6.4	8.7	14.4		13.8	13.4
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a		8.3	11.3	12.5		11.9	16.1	12.2		11.4	7.1	21.3		13.9	24.3
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a		5700	7880	7340		7660	8250	7460		6730	5450	5030		5410	5150
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a		482	767	320		567	374	616		453	615	1030		4140	1050
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486		<0.05	0.05	0.08		0.06	0.08	0.07		0.05	0.05	0.17		0.11	0.17
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a		0.8	1.2	0.9		0.8	1.1	0.9		0.7	1	0.8		1.1	0.9
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a		14.5	23.1	20.8		20.4	26.1	21.4		19	37.4	21.3		20	22.7
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a		727	1200	721		667	730	788		698	625	602		568	624
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a		1360	1480	1400		1420	1610	1400		1230	1190	904		941	899
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a		<0.5	0.7	0.5		0.5	0.7	<0.5		<0.5	0.6	1		0.7	1.3
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a		<3000	<3000	<3000		<3000	<3000	<3000		<3000	<3000	<3000		<3000	<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a		<0.2	<0.2	<0.2		<0.2	<0.2	<0.2		<0.2	<0.2	<0.2		<0.2	<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a		230	315	355		365	410	392		382	387	260		246	240
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a		40.5	63.2	45.9		45.4	53.9	50.1		44.6	89	46.9		44.7	59.3
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a		<1000	<1000	<1000		<1000	<1000	<1000		<1000	1200	1200		<1000	<1000
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a		0.1	0.2	0.2		0.2	0.2	0.2		0.2	0.2	0.3		0.3	0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a		6.2	9.6	8.4		6.2	9.5	7.5		6.6	7.1	14.7		12.2	15.8
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a		1.1	1	0.6		0.6	0.6	0.6		0.6	0.6	0.8		0.8	1.5
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a		683	838	1050		1120	1060	1140		1130	668	894		920	758
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a		3.4	5.5	17		13.2	24.4	13.5		11.4	51.4	20.8		10.8	26.7
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a		51.9	70.9	61.2		63.8	63.6	66.1		58.9	49.1	55.3		56.6	56.6
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315		62	101	72		71	81	71		62	82	108		79	111
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a		<2	3	4		3	4	4		4	4	5		3	3

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ13-1	AQ13-PSD	AQ13-2	AQ13-2R	AQ13-3	AQ10-1	AQ10-PSD	AQ10-2	AQ10-3	AQ10-3R	AQ30-1	AQ30-PSD	AQ30-2	AQ30-3	AQ30-3R
				ISQG	PEL	30-Aug-14	30-Aug-14	30-Aug-14	30-Aug-14	30-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14	29-Aug-14
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a	4.87		5.17	4.34	4.2	3.49		2.74	2.34	3.12	4.37		13	4.88	6.26
General Parameters	Moisture	% wet	0.1	n/a	n/a	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
General Parameters	pH	pH units	0.1	n/a	n/a	6.9		6.6	6.8	6.4	7.1		6.9	7.2	7.1	6.8		6.4	6.8	6.7
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a	<1.0		<1.0	<1.0	<1.0	4		6	6	8	4		8	5	7
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a	1.1		1.2	1.4	3.1	2.1		2.4	2.2	2.7	1.6		1.1	1.5	1.8
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a	6		10	9	7	4		4	3	2	6		15	6	7
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a		<0.1					<0.1					<0.1			
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a		1.6					0.2					4.7			
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a		0.7					0.2					1			
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a		3.3					1.9					2.7			
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a		7.4					6.3					7.7			
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a		5.9					8.2					7.4			
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a		7.4					13.4					10.2			
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a		17.7					24.3					30.5			
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a		18.9					14.7					14			
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a		37.1					30.7					21.8			
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a	4200		3650	3700	3400	2000		2000	2500	2500	3550		3100	4700	4500
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a	225		200	230	180	255		260	360	360	275		310	385	410
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a	104		91	114	130	78		70	111	121	57		79	71	94
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a	27		29	26	19	26		20	55	27	25		42	29	30
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a	19900		19300	19200	19700	17900		16100	17800	18900	14700		13400	15100	15100
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a	0.6		0.6	0.6	0.7	0.7		0.7	0.7	0.7	1		1.1	1.3	1.3
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17	25.5		21.5	23.9	24.6	16.2		16.3	12.7	13.7	10.7		12.9	14.6	15.5
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a	149		151	149	154	199		165	180	192	198		197	202	211
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a	0.8		0.7	0.8	0.7	0.5		0.6	0.6	0.7	0.6		0.6	0.7	0.6
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a	0.3		0.2	0.3	0.3	0.2		0.2	0.2	0.2	0.2		0.2	0.2	0.3
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a	<2		<2	2	<2	2		2	2	3	2		2	2	2
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5	0.17		0.19	0.16	0.15	0.51		0.27	0.35	0.34	0.23		0.3	0.21	0.21
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a	7660		7460	7480	7920	7760		6790	6980	7210	7930		9770	7970	8330
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90	56.9		51.8	54.3	60.1	35.9		34.4	35.8	38.1	30.9		26.8	31.3	31
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a	11.8		11.3	11.2	12.1	12.4		10.7	11.4	11.8	9.7		10.3	10.2	10.4
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197	21		19.5	19.9	21.8	22.6		19.4	18.7	20	17.8		20.9	19.9	20.6
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a	26000		25100	24900	26300	27700		25000	26800	28200	23400		21900	24600	24900
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3	9.5		10.2	9.7	9.1	12.5		11.4	11.8	12.2	12.6		12.5	12.4	13
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a	16.1		14.6	14.3	14.7	19.2		16.5	19.5	21	11.7		10.3	12.9	12.5
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a	8050		7290	7590	8050	6430		6410	6540	6920	5670		5140	5920	5920
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a	540		632	558	520	776		498	615	595	518		698	544	585
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486	0.06		0.07	0.06	0.08	0.11		0.06	0.07	0.08	0.06		0.06	0.1	0.07
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a	0.6		0.6	0.6	0.6	0.9		0.8	0.8	0.8	0.8		0.9	0.9	0.9
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a	32.4		29.9	31.6	34.8	26.6		23.3	24.9	26.3	18.8		18	20	20
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a	479		498	486	543	744		683	670	679	605		696	609	576
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a	2110		1890	1960	2280	1270		1200	1240	1320	1160		1170	1250	1290
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a	0.6		0.6	0.6	0.6	0.9		0.7	0.9	0.8	0.7		1	0.8	0.8
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a	308		288	291	325	317		301	319	326	253		219	230	229
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a	54		52.7	52.6	53.7	52		43.2	46.9	48.8	58.1		71.4	60.2	62.2
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a	0.3		0.3	0.3	0.3	0.2		0.2	0.2	0.2	0.2		0.2	0.2	0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a	11		11.8	11.3	12	10.3		9	9.8	10	12.7		11.9	11.9	11.9
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a	1.1		1.1	1.1	1.1	0.7		0.6	0.7	0.8	0.8		0.8	0.7	0.7
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a	1240		1130	1200	1220	1050		1020	1160	1180	876		769	786	722
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a	7.1		6.5	6.5	7.2	14		9.7	11.4	11.4	6.1		10	6.9	7.5
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a	51.3		49.4	48	50.6	59.4		55.6	57.2	59	46.2		42.5	47	46.3
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315	65		66	64	61	88		76	85	89	60		62	64	64
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a	3		4	3	3	3		3	3	4	3		4	3	3

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ00-1	AQ00-2	AQ00-3	AQ00-PSD	AQ02-1	AQ02-2	AQ02-3	AQ02-3R	AQ02-PSD	AQREF1-1	AQREF1-2	AQREF1-3	AQREF1-3R	AQREF1-PSD	AQ30-1
				ISQG	PEL	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	01-Aug-15	01-Aug-15	26-Jul-15	27-Jul-15	27-Jul-15	27-Jul-15	27-Jul-15	27-Jul-15	27-Jul-15
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a	1.65	23.8	4.86		10.3	5.21	6.15	7.34		0.95	2.51	4.28	5.56		2.75
General Parameters	Moisture	% wet	0.1	n/a	n/a	35.7	60.4	54.8		34.6	41.9	57.4	51.4		7.3	53.4	63.8	55.9		20.1
General Parameters	pH	pH units	0.1	n/a	n/a	6.6	6.6	6.2		6.8	6.3	6.3	6.2		6.8	6.8	6.6	6.5		6.7
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a	6.7		12		9.3	8	8	9.3		5.3	8	8			5.3
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a	1.9		2.3		1.8	1.3	1.9	1.1		<1.0	1.5	1.8			1.8
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a	5		6		5	16	4	3		3	6	6			4
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a				<0.1					<0.1					<0.1	
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a				<0.1					<0.1					13	
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a				<0.1					1.8					10	
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a				0.4					0.8					2.2	
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a				1.7					3.1					5.3	
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a				4.6					6.5					5.6	
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a				11					4.7					4.3	
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a				6.6					7.2					7.8	
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a				22.4					22.3					23.9	
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a				16.6					20.1					15.8	
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a				36.7					33.3					12.1	
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a	1500		1400		2140	2150	2430	2050		1350	2500	2100			1780
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a	290		260		393	385	421	370		290	488	400			207
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a	47		100		79	79	130	103		31	45	38			44
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a	20		45		24	21	34	20		13	48	28			19
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a	15200	16500	16100		16500	16600	17400	16700		13600	14000	13200	14500		16700
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a	0.5	0.6	0.4		0.5	0.5	0.5	0.4		1.6	1.3	1.5	1.5		1.3
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17	7.3	6.5	8.2		9.6	9.2	8.5	8.3		22.7	14.6	11.5	10.9		18
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a	174	208	183		199	198	201	191		374	388	322	325		225
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a	0.4	0.5	0.4		0.3	0.4	0.4	0.4		0.4	0.4	0.5	0.5		0.7
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a	0.2	0.2	0.2		0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2		0.2
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a	2	3	2		2	2	2	2		2	2	2	2		3
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5	0.19	0.2	0.24		0.27	0.23	0.23	0.22		0.31	0.33	0.29	0.29		0.23
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a	7010	10400	6950		8090	7740	7700	6970		7570	8730	9070	9340		9920
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90	29.6	33.8	28.7		30.3	30.3	31	29.5		26.7	26.4	27.3	27.3		32
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a	9.1	8.3	10.3		11.1	10.4	11	10.2		8.4	9.1	8.6	9.2		11.8
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197	18.9	30.5	17.9		20	18.5	20.4	18.4		18.2	19.5	22	22.3		21.9
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a	22300	21100	23800		24800	24700	25800	24600		25200	23400	20600	21400		25800
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3	7.2	7.5	6.5		6.9	7.6	6.9	6.6		8.9	8.7	10.1	9.5		11.7
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a	14.2	16.6	13.3		13.7	14.3	13.8	13.1		11.4	12.8	11.5	12.2		14.2
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a	6220	6700	6260		6470	6510	6770	6550		5920	6220	6080	6240		6290
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a	284	252	525		559	498	569	519		429	343	242	199		687
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486	0.07	0.15	0.1		0.07	0.06	0.08	0.07		<0.05	0.05	0.06	0.06		0.08
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a	0.8	0.9	0.8		0.9	0.9	0.9	0.8		1.1	0.7	0.8	0.8		0.9
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a	19	23.9	18.5		19.5	19.4	19.2	18.2		17.6	19.9	20.5	20.6		20.9
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a	715	722	658		711	700	637	655		1110	876	771	829		667
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a	1150	1300	1310		1220	1220	1260	1190		1050	1100	884	1040		1290
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a	0.8	1.1	0.6		1.2	0.6	0.9	1.2		1.1	1	1.2	1		0.9
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a	<3000	<3000	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000	<3000		<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a	274	272	283		273	279	273	288		218	251	225	246		214
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a	40.6	59.5	40		45.2	43.3	44	41.2		44.9	56.9	60.6	59.6		64.3
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a	<1000	1000	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000	<1000		<1000
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a	0.1	0.2	0.2		0.2	0.2	0.2	0.2		0.1	0.1	0.1	0.2		0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a	6.6	7.6	5.4		5.8	6.4	5.3	5.3		6.7	6.1	5.8	6.3		9.9
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a	0.5	0.7	0.5		0.5	0.5	0.5	0.6		0.4	0.5	0.4	0.5		0.5
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a	972	895	1070		1050	1090	1070	1080		701	780	700	758		796
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a	12.4	54.6	11.3		11	10.9	7.8	6.1		2.9	3.6	4.5	4.4		7.4
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a	49.6	41.9	52.7		54.8	54.6	56.3	55.1		56.2	49.5	45.8	49.3		47.5
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315	66	63	66		68	68	70	67		74	75	70	71		72
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a	<2	3	2		2	2	2	2		<2	<2	<2	<2		2

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ30-2	AQ30-3	AQ30-PSD	AQ11-1	AQ11-2	AQ11-PSD	AQ10-1	AQ10-2	AQ10-3	AQ10-3R	AQ10-PSD	AQ04-1	AQ04-2	AQ04-3	AQ04-3R
				ISQG	PEL	27-Jul-15	27-Jul-15	27-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	29-Jul-15	29-Jul-15	29-Jul-15	29-Jul-15
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a	3	4.04		7.83	3.25		3.48	4.61	4.35	3.81		5.34	5.44	5.43	5.26
General Parameters	Moisture	% wet	0.1	n/a	n/a	6.9	36		43.3	36.3		55.1	42.6	50.7	44.2		24.7	53.1	36.6	49
General Parameters	pH	pH units	0.1	n/a	n/a	6.8	6.3		6.4	6.4		5.8	6.5	6.3	6.1		6.9	7.1	6.7	6.8
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a	5.3	9.3		12	12		11	11	11	11		6.7	12	9.3	11
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a	1	2.2		1.8	2.2		3.2	2.3	2.8	3		<1.0	1.9	1.6	1.3
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a	7	7		5	5		<2	4	4	8		4	6	5	2
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a			<0.1			<0.1					<0.1				
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a			0.4			2.4					7.2				
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a			3.1			5.8					3.3				
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a			2			2.7					1.4				
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a			6.2			8.3					5.8				
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a			9.9			10.6					10.1				
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a			5.4			11.2					7.4				
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a			5.7			20.8					10.1				
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a			12.4			23.7					24.7				
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a			14.1			9.4					16.6				
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a			40.9			5					13.3				
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a	1290	1850		3570	2140		2210	1930	1790	1640		1450	2600	2210	2140
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a	143	220		550	336		364	321	279	275		235	380	364	314
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a	30	68		97	96		157	83	100	91		54	98	80	63
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a	11	13		43	29		26	21	20	19		14	40	20	19
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a	15200	11700		17500	15400		18700	16700	16100	14700		14800	15800	18200	17500
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a	1.1	0.7		0.8	0.6		0.7	0.6	0.6	0.6		0.4	0.5	0.6	0.6
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17	15.5	10.1		17.1	11.1		14.4	10.7	11.6	8.9		4.4	10.9	11.7	10.6
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a	210	179		208	151		180	169	164	149		120	162	184	170
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a	0.7	0.4		0.5	0.4		0.6	0.4	0.4	0.3		0.3	0.6	0.6	0.5
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a	0.2	0.1		0.2	0.2		0.2	0.2	0.2	0.2		0.2	0.1	0.2	0.2
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a	3	3		2	2		2	2	2	<2		<2	2	2	2
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5	0.29	0.09		0.48	0.29		0.3	0.29	0.27	0.21		0.09	0.3	0.29	0.28
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a	9290	11300		8810	6920		8530	7700	7530	6340		6050	7200	7490	7230
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90	27.8	26.8		36.1	30.1		35.8	31.7	31.9	29.1		26.1	26.3	32.9	30.9
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a	11.1	8.3		12.1	10.2		12.6	11	10.9	9.5		7.4	9.6	10.9	10.4
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197	20	29.9		26.2	15		19.3	15.8	15.9	14		13.7	15.6	17.7	15.4
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a	24000	19800		27000	23000		27200	24800	23900	21500		21600	21900	25400	23500
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3	12	7		11.4	9.1		10.9	9.8	10	9		7.9	10.8	11.4	11.2
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a	12.6	11.2		16.6	14.7		17.3	14.9	14.4	12.5		12.5	13.8	15.9	15.8
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a	5610	5840		6990	5850		6910	6300	5970	5710		5810	5050	6450	5930
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a	706	413		768	478		870	693	605	479		323	738	726	548
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486	0.07	<0.05		0.06	0.05		0.08	0.06	0.06	<0.05		0.05	0.1	0.09	0.09
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a	0.8	0.3		1.1	0.6		0.9	0.7	0.7	0.6		0.5	0.6	0.7	0.6
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a	19.4	22.3		27	20.3		24.4	21	21	18.9		15.6	17.4	21.9	20.3
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a	667	664		621	676		662	670	700	650		541	518	573	532
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a	1150	1290		1290	1090		1200	1150	1050	942		846	870	1140	1020
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a	1.2	0.9		0.9	0.8		0.7	0.8	0.7	0.8		1.7	2	2	1.9
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a	<3000	<3000		<3000	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000	<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a	<0.2	<0.2		<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a	209	242		262	251		279	281	279	254		261	179	242	237
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a	59.4	57.4		50.9	38.3		46.3	40	40.4	34		45.7	64.1	62.1	60.6
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a	<1000	<1000		<1000	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000	<1000
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a	0.2	0.1		0.2	0.2		0.2	0.2	0.2	0.1		0.1	0.1	0.2	0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a	10.4	6.3		7	6.9		7.8	6.9	7.3	6.2		8.6	9.7	10.8	10.5
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a	0.5	0.3		0.6	0.5		0.6	0.5	0.5	0.5		0.6	0.6	0.6	0.6
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a	679	800		999	1060		1050	1090	1090	1040		1040	804	952	922
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a	6	4.6		7.9	6.1		8	4.9	5.4	3.7		11.2	9.2	12.6	12.1
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a	41.7	36.5		55.5	49.1		54.7	50.7	51.8	46.1		46.1	41.9	50	44.6
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315	72	65		79	72		80	75	73	68		52	73	74	74
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a	2	4		2	2		3	2	2	2		3	3	2	2

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ04-PSD	AQ13-1	AQ13-2	AQ13-3	AQ13-3R	AQ13-PSD	AQ20-1	AQ20-2	AQ20-3	AQ20-3R	AQ20-PSD	AQREF2-1	AQREF2-2	AQREF2-3	AQREF2-PSD
				ISQG	PEL	29-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	30-Jul-15	31-Jul-15	31-Jul-15	31-Jul-15	31-Jul-15
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a		5.32	4.76	4.43	2.73		9.05	5.91	10.5	10.6		3.92	2.98	4.34	
General Parameters	Moisture	% wet	0.1	n/a	n/a		48	48.4	62.1	39.7		47.4	46	48.7	43		31.7	41.9	36.1	
General Parameters	pH	pH units	0.1	n/a	n/a		4.4	6.6	5.8	5.5		6.7	7.1	7	7		7.1	6.7	6.7	
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a		11	12	10	5.3		8	8	8	10		5.3	5.3	5.3	
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a		<1.0	2	3.4	1.8		3.2	1.9	2.2	3.5		<1.0	1.5	1.2	
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a		<2	2	2	5		9	<2	2	3		4	<2	<2	
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a	<0.1					<0.1					<0.1				<0.1
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a	0.9					2.1					1				0.9
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a	3.7					3.5					3				3.3
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a	1.7					1.5					1.3				1.8
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a	8.3					5.2					5.5				7
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a	19.8					10.8					10.6				13
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a	18.5					8.9					6.6				26.6
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a	22.8					11.4					7.6				29.2
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a	17.5					22.6					17.4				12.7
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a	4.8					18.1					17.3				3.2
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a	2					15.8					29.8				2.2
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a		1000	2640	2700	2400		3300	3350	3570	3790		1800	2070	2140	
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a		143	207	210	210		480	480	514	486		540	729	1010	
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a		69	100	92	108		100	101	99	81		62	64	73	
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a		16	34	28	24		38	16	21	21		30	30	57	
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a		19100	22500	17900	17200		14000	16200	14900	15800		13200	12600	13800	
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a		0.5	0.8	0.5	0.5		0.9	0.9	0.9	1.1		0.4	0.3	0.3	
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17		19.1	37.7	22.5	20.2		13.8	15	14	12.7		5.9	6.4	7.4	
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a		111	185	137	132		167	193	179	191		196	158	151	
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a		0.6	0.8	0.6	0.5		0.5	0.6	0.5	0.6		0.4	0.5	0.5	
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a		0.2	0.2	0.3	0.2		0.1	0.1	0.1	0.2		<0.1	<0.1	<0.1	
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a		<2	<2	<2	<2		2	2	2	3		3	3	4	
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5		0.08	0.3	0.13	0.1		0.18	0.18	0.17	0.15		0.21	0.16	0.13	
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a		3840	9010	7090	6060		8330	9460	9550	10600		8390	7610	7840	
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90		54.6	62.3	48.4	48.9		32.2	36.1	34	36.5		33.9	36.1	43.4	
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a		10.2	14.8	10	9.6		9.3	10.2	9	7.9		10	8.8	9.4	
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197		16.5	25.5	17.8	17.2		16.1	19.6	19.1	24.1		24.4	19.1	21.7	
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a		25300	28800	23300	23300		20500	23400	21200	20100		23200	22300	26900	
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3		9.3	8.8	8.2	7.7		7	7.6	7.3	7.5		5.5	5.5	6.3	
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a		12.8	17.4	12.4	12.2		12.5	15.1	13.7	15.8		11.1	11.3	11.8	
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a		7960	8650	7120	7220		5980	6450	6280	6440		7350	7010	9690	
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a		387	901	635	413		578	613	433	238		515	226	207	
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486		0.06	0.08	0.06	<0.05		0.07	0.06	0.06	0.08		<0.05	<0.05	<0.05	
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a		1.5	0.6	0.6	0.6		0.5	0.5	0.6	0.5		0.5	0.5	0.6	
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a		29.1	38.8	28.2	27.6		21.1	24.6	22.6	24.2		34.3	33.1	42.1	
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a		480	547	469	526		634	725	667	680		711	729	805	
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a		1760	2310	1710	1950		1120	1330	1220	1110		889	738	833	
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a		1.5	1.5	2.4	0.9		1.6	1.7	1.2	<0.5		<0.5	<0.5	<0.5	
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a		<3000	<3000	<3000	<3000		<3000	<3000	<3000	<3000		<3000	<3000	<3000	
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a		236	283	240	263		204	223	210	198		390	360	490	
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a		30.3	62.1	45.7	41.1		72.2	80.8	82.3	93.2		60.5	58	52.9	
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a		<1000	<1000	<1000	<1000		<1000	<1000	<1000	<1000		<1000	<1000	<1000	
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a		0.3	0.4	0.2	0.2		0.1	0.2	0.1	0.2		<0.1	<0.1	<0.1	
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a		7.9	11.2	9.6	9.6		7.3	9.1	8.4	8.8		3.5	3.6	3.8	
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a		1	1	0.9	0.9		0.6	0.6	0.6	0.6		0.4	0.4	0.6	
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a		1180	1170	1060	1160		792	912	763	742		860	821	960	
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a		2.9	10	4.4	2.8		17.1	17.6	27.9	28.9		1.3	2.1	1.4	
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a		64.2	51.8	43.9	45.7		39.1	45.3	39.8	35.2		47.9	50.4	57.3	
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315		60	75	57	55		64	61	57	54		64	62	60	
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a		<2	2	<2	<2		2	3	3	3		4	3	4	

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B1. Sediment quality data, Coffee Gold Project, 2014-2015

Method	Analyte	Units	RDL	CCME guideline		AQ04.5-1	AQ04.5-2	AQ04.5-3	AQ04.5-4
				ISQG	PEL	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15
General Parameters	Carbon, Total Organic	% dry	0.05	n/a	n/a	6.49	12.2	6.85	8.16
General Parameters	Moisture	% wet	0.1	n/a	n/a	50.8	58.8	56.1	58.7
General Parameters	pH	pH units	0.1	n/a	n/a	5.8	5.7	5.9	5.7
Fertility / Nutrient Parameters	Nitrogen, Ammonia as N, Available	mg/kg dry	1	n/a	n/a	8	12	12	9.3
Fertility / Nutrient Parameters	Nitrogen, Nitrate as N, Available	mg/kg dry	1	n/a	n/a	2.9	3.5	3.7	2.7
Fertility / Nutrient Parameters	Phosphorus, Available	mg/kg dry	2	n/a	n/a	2	<2	3	4
Particle Size Distribution	> 80 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 56 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 40 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 25 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 19 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 12.5 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 4.75 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 2.36 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 2.0 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 1.18 mm	%	0.1	n/a	n/a				
Particle Size Distribution	> 600 µm	%	0.1	n/a	n/a				
Particle Size Distribution	> 425 µm	%	0.1	n/a	n/a				
Particle Size Distribution	> 300 µm	%	0.1	n/a	n/a				
Particle Size Distribution	> 150 µm	%	0.1	n/a	n/a				
Particle Size Distribution	> 75 µm	%	0.1	n/a	n/a				
Particle Size Distribution	< 75 µm	%	0.1	n/a	n/a				
Exchangeable Ions	Calcium, Available	mg/kg dry	5	n/a	n/a	1500	2210	1570	1820
Exchangeable Ions	Magnesium, Available	mg/kg dry	5	n/a	n/a	264	364	250	271
Exchangeable Ions	Potassium, Available	mg/kg dry	5	n/a	n/a	129	150	171	146
Exchangeable Ions	Sodium, Available	mg/kg dry	5	n/a	n/a	19	19	19	16
Strong Acid Leachable Metals	Aluminum	mg/kg dry	20	n/a	n/a	14300	17200	15500	16400
Strong Acid Leachable Metals	Antimony	mg/kg dry	0.1	n/a	n/a	0.5	0.7	0.6	0.6
Strong Acid Leachable Metals	Arsenic	mg/kg dry	0.4	5.9	17	10.2	21.7	12.9	13.8
Strong Acid Leachable Metals	Barium	mg/kg dry	1	n/a	n/a	138	188	152	172
Strong Acid Leachable Metals	Beryllium	mg/kg dry	0.1	n/a	n/a	0.4	0.6	0.5	0.4
Strong Acid Leachable Metals	Bismuth	mg/kg dry	0.1	n/a	n/a	0.1	0.2	0.1	0.1
Strong Acid Leachable Metals	Boron	mg/kg dry	2	n/a	n/a	<2	<2	<2	<2
Strong Acid Leachable Metals	Cadmium	mg/kg dry	0.04	0.6	3.5	0.28	0.61	0.36	0.49
Strong Acid Leachable Metals	Calcium	mg/kg dry	100	n/a	n/a	4390	5360	4980	5180
Strong Acid Leachable Metals	Chromium	mg/kg dry	1	37.3	90	24.5	27.8	25.8	27.3
Strong Acid Leachable Metals	Cobalt	mg/kg dry	0.1	n/a	n/a	8.1	15.2	9.1	12.8
Strong Acid Leachable Metals	Copper	mg/kg dry	0.2	35.7	197	10.8	15.2	12.2	13.2
Strong Acid Leachable Metals	Iron	mg/kg dry	20	n/a	n/a	20500	27400	22700	23600
Strong Acid Leachable Metals	Lead	mg/kg dry	0.2	35	91.3	9.9	13	10.9	11.9
Strong Acid Leachable Metals	Lithium	mg/kg dry	0.1	n/a	n/a	10.9	13.4	11.9	12.2
Strong Acid Leachable Metals	Magnesium	mg/kg dry	10	n/a	n/a	4570	4990	4880	5000
Strong Acid Leachable Metals	Manganese	mg/kg dry	0.4	n/a	n/a	933	2050	1110	1680
Strong Acid Leachable Metals	Mercury	mg/kg dry	0.05	0.17	0.486	0.08	0.13	0.11	0.12
Strong Acid Leachable Metals	Molybdenum	mg/kg dry	0.1	n/a	n/a	0.5	1.3	0.7	0.8
Strong Acid Leachable Metals	Nickel	mg/kg dry	0.4	n/a	n/a	14.5	17.7	15.6	17.1
Strong Acid Leachable Metals	Phosphorus	mg/kg dry	10	n/a	n/a	509	569	528	577
Strong Acid Leachable Metals	Potassium	mg/kg dry	10	n/a	n/a	651	780	741	739
Strong Acid Leachable Metals	Selenium	mg/kg dry	0.5	n/a	n/a	0.7	<0.5	<0.5	0.6
Strong Acid Leachable Metals	Silicon	mg/kg dry	3000	n/a	n/a	<3000	<3000	<3000	<3000
Strong Acid Leachable Metals	Silver	mg/kg dry	0.2	n/a	n/a	<0.2	<0.2	<0.2	<0.2
Strong Acid Leachable Metals	Sodium	mg/kg dry	40	n/a	n/a	180	173	187	180
Strong Acid Leachable Metals	Strontium	mg/kg dry	0.2	n/a	n/a	31.3	41.2	36.3	39.4
Strong Acid Leachable Metals	Sulfur	mg/kg dry	1000	n/a	n/a	<1000	<1000	<1000	<1000
Strong Acid Leachable Metals	Tellurium	mg/kg dry	0.1	n/a	n/a	<0.1	<0.1	<0.1	<0.1
Strong Acid Leachable Metals	Thallium	mg/kg dry	0.1	n/a	n/a	0.1	0.2	0.2	0.2
Strong Acid Leachable Metals	Thorium	mg/kg dry	0.5	n/a	n/a	9	10.8	9.5	9.5
Strong Acid Leachable Metals	Tin	mg/kg dry	0.2	n/a	n/a	0.5	0.6	0.6	0.6
Strong Acid Leachable Metals	Titanium	mg/kg dry	2	n/a	n/a	832	734	826	759
Strong Acid Leachable Metals	Uranium	mg/kg dry	0.1	n/a	n/a	5.5	9.3	7	6.1
Strong Acid Leachable Metals	Vanadium	mg/kg dry	0.4	n/a	n/a	42.7	57	46.4	48.1
Strong Acid Leachable Metals	Zinc	mg/kg dry	2	123	315	63	77	68	69
Strong Acid Leachable Metals	Zirconium	mg/kg dry	2	n/a	n/a	<2	<2	<2	<2

Notes: CCME guidelines include: ISQG= interim sediment quality guideline, PEL=probable effect levels
PSD=Particle Size Distribution, R=Field Split, RDL=Reported Detection Limit

Exceedances

ISQG
ISQG and PEL

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ04	29-Aug-14	Aluminum	19200	20200	20	60.00	5.08
AQ04	29-Aug-14	Ammonia as N, Available	10	10	1.00	3.00	0.00
AQ04	29-Aug-14	Antimony	1	1	0.10	0.30	15.38
AQ04	29-Aug-14	Arsenic	13	13	0.40	1.20	2.37
AQ04	29-Aug-14	Barium	184	183	1.00	3.00	0.54
AQ04	29-Aug-14	Beryllium	1	1	0.10	0.30	13.33
AQ04	29-Aug-14	Bismuth	0	0	0.10	0.30	0.00
AQ04	29-Aug-14	Boron	2	2	2.00	6.00	0.00
AQ04	29-Aug-14	Cadmium	0	0	0.04	0.12	0.00
AQ04	29-Aug-14	Calcium	8380	8430	100	300.00	0.59
AQ04	29-Aug-14	Calcium, Available	2170	2670	5.00	15.00	20.66
AQ04	29-Aug-14	Carbon, Total Organic	5	4	0.05	0.15	23.93
AQ04	29-Aug-14	Chromium	33	32	1.00	3.00	1.55
AQ04	29-Aug-14	Cobalt	12	12	0.10	0.30	2.51
AQ04	29-Aug-14	Copper	21	20	0.20	0.60	4.95
AQ04	29-Aug-14	Iron	25700	25400	20.00	60.00	1.17
AQ04	29-Aug-14	Lead	12	12	0.20	0.60	0.00
AQ04	29-Aug-14	Lithium	19	20	0.10	0.30	4.12
AQ04	29-Aug-14	Magnesium	5970	5570	10.00	30.00	6.93
AQ04	29-Aug-14	Magnesium, Available	300	333	5.00	15.00	10.43
AQ04	29-Aug-14	Manganese	697	712	0.40	1.20	2.13
AQ04	29-Aug-14	Mercury	0	0	0.05	0.15	6.90
AQ04	29-Aug-14	Molybdenum	1	1	0.10	0.30	15.38
AQ04	29-Aug-14	Nickel	25	24	0.40	1.20	2.89
AQ04	29-Aug-14	Nitrate as N, Available	1	3	1.00	3.00	**83**
AQ04	29-Aug-14	pH	8	8	0.10	0.30	2.60
AQ04	29-Aug-14	Phosphorus	597	600	10.00	30.00	0.50
AQ04	29-Aug-14	Phosphorus, Available	7	6	2.00	6.00	15.38
AQ04	29-Aug-14	Potassium	1270	1180	10.00	30.00	7.35
AQ04	29-Aug-14	Potassium, Available	102	102	5.00	15.00	0.00
AQ04	29-Aug-14	Selenium	2	1	0.50	1.50	14.29
AQ04	29-Aug-14	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ04	29-Aug-14	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ04	29-Aug-14	Sodium	246	279	40.00	120.00	12.57
AQ04	29-Aug-14	Sodium, Available	43	25	5.00	15.00	**53**
AQ04	29-Aug-14	Strontium	81	81	0.20	0.60	0.99
AQ04	29-Aug-14	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ04	29-Aug-14	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ04	29-Aug-14	Thallium	0	0	0.10	0.30	0.00

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ04	29-Aug-14	Thorium	15	15	0.50	1.50	1.36
AQ04	29-Aug-14	Tin	1	1	0.20	0.60	**29**
AQ04	29-Aug-14	Titanium	891	891	2.00	6.00	0.00
AQ04	29-Aug-14	Uranium	10	13	0.10	0.30	24.35
AQ04	29-Aug-14	Vanadium	45	47	0.40	1.20	3.04
AQ04	29-Aug-14	Zinc	88	95	2.00	6.00	7.65
AQ04	29-Aug-14	Zirconium	4	4	2.00	6.00	0.00
AQ10	29-Aug-14	Aluminum	17800	18900	20	60.00	5.99
AQ10	29-Aug-14	Ammonia as N, Available	6	8	1.00	3.00	**29**
AQ10	29-Aug-14	Antimony	1	1	0.10	0.30	0.00
AQ10	29-Aug-14	Arsenic	13	14	0.40	1.20	7.58
AQ10	29-Aug-14	Barium	180	192	1.00	3.00	6.45
AQ10	29-Aug-14	Beryllium	1	1	0.10	0.30	15.38
AQ10	29-Aug-14	Bismuth	0	0	0.10	0.30	0.00
AQ10	29-Aug-14	Boron	2	3	2.00	6.00	**40**
AQ10	29-Aug-14	Cadmium	0	0	0.04	0.12	2.90
AQ10	29-Aug-14	Calcium	6980	7210	100.00	300.00	3.24
AQ10	29-Aug-14	Calcium, Available	2500	2500	5.00	15.00	0.00
AQ10	29-Aug-14	Carbon, Total Organic	2	3	0.05	0.15	**29**
AQ10	29-Aug-14	Chromium	36	38	1.00	3.00	6.22
AQ10	29-Aug-14	Cobalt	11	12	0.10	0.30	3.45
AQ10	29-Aug-14	Copper	19	20	0.20	0.60	6.72
AQ10	29-Aug-14	Iron	26800	28200	20.00	60.00	5.09
AQ10	29-Aug-14	Lead	12	12	0.20	0.60	3.33
AQ10	29-Aug-14	Lithium	20	21	0.10	0.30	7.41
AQ10	29-Aug-14	Magnesium	6540	6920	10.00	30.00	5.65
AQ10	29-Aug-14	Magnesium, Available	360	360	5.00	15.00	0.00
AQ10	29-Aug-14	Manganese	615	595	0.40	1.20	3.31
AQ10	29-Aug-14	Mercury	0	0	0.05	0.15	13.33
AQ10	29-Aug-14	Molybdenum	1	1	0.10	0.30	0.00
AQ10	29-Aug-14	Nickel	25	26	0.40	1.20	5.47
AQ10	29-Aug-14	Nitrate as N, Available	2	3	1.00	3.00	20.41
AQ10	29-Aug-14	pH	7	7	0.10	0.30	1.40
AQ10	29-Aug-14	Phosphorus	670	679	10.00	30	1.33
AQ10	29-Aug-14	Phosphorus, Available	3	2	2.00	6.00	40
AQ10	29-Aug-14	Potassium	1240	1320	10.00	**30.00**	6.25
AQ10	29-Aug-14	Potassium, Available	111	121	5.00	15.00	8.62
AQ10	29-Aug-14	Selenium	1	1	0.50	1.50	11.76
AQ10	29-Aug-14	Silicon	<3000	<3000	3000.00	9000.00	0.00

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ10	29-Aug-14	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ10	29-Aug-14	Sodium	319	326	40.00	120.00	2.17
AQ10	29-Aug-14	Sodium, Available	55	27	5.00	15.00	**68**
AQ10	29-Aug-14	Strontium	47	49	0.20	0.60	3.97
AQ10	29-Aug-14	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ10	29-Aug-14	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ10	29-Aug-14	Thallium	0	0	0.10	0.30	0.00
AQ10	29-Aug-14	Thorium	10	10	0.50	1.50	2.02
AQ10	29-Aug-14	Tin	1	1	0.20	0.60	13.33
AQ10	29-Aug-14	Titanium	1160	1180	2.00	6.00	1.71
AQ10	29-Aug-14	Uranium	11	11	0.10	0.30	0.00
AQ10	29-Aug-14	Vanadium	57	59	0.40	1.20	3.10
AQ10	29-Aug-14	Zinc	85	89	2.00	6.00	4.60
AQ10	29-Aug-14	Zirconium	3	4	2.00	6.00	**29**
AQ11	29-Aug-14	Aluminum	19200	19100	20	60.00	0.52
AQ11	29-Aug-14	Ammonia as N, Available	2	2	1.00	3.00	0.00
AQ11	29-Aug-14	Antimony	1	1	0.10	0.30	13.33
AQ11	29-Aug-14	Arsenic	13	15	0.40	1.20	10.14
AQ11	29-Aug-14	Barium	172	178	1.00	3.00	3.43
AQ11	29-Aug-14	Beryllium	1	1	0.10	0.30	18.18
AQ11	29-Aug-14	Bismuth	0	0	0.10	0.30	0.00
AQ11	29-Aug-14	Boron	2	2	2.00	6.00	0.00
AQ11	29-Aug-14	Cadmium	0	0	0.04	0.12	14.63
AQ11	29-Aug-14	Calcium	7030	7220	100.00	300.00	2.67
AQ11	29-Aug-14	Calcium, Available	2500	2300	5.00	15.00	8.33
AQ11	29-Aug-14	Carbon, Total Organic	3	3	0.05	0.15	16.53
AQ11	29-Aug-14	Chromium	35	36	1.00	3.00	0.28
AQ11	29-Aug-14	Cobalt	11	12	0.10	0.30	0.87
AQ11	29-Aug-14	Copper	19	21	0.20	0.60	7.04
AQ11	29-Aug-14	Iron	26900	27800	20.00	60.00	3.29
AQ11	29-Aug-14	Lead	10	11	0.20	0.60	10.33
AQ11	29-Aug-14	Lithium	15	16	0.10	0.30	7.17
AQ11	29-Aug-14	Magnesium	7050	6870	10.00	30.00	2.59
AQ11	29-Aug-14	Magnesium, Available	310	275	5.00	15.00	11.97
AQ11	29-Aug-14	Manganese	656	680	0.40	1.20	3.59
AQ11	29-Aug-14	Mercury	0	0	0.05	0.15	15.38
AQ11	29-Aug-14	Molybdenum	1	1	0.10	0.30	11.76
AQ11	29-Aug-14	Nickel	24	25	0.40	1.20	2.87
AQ11	29-Aug-14	Nitrate as N, Available	2	4	1.00	3.00	**60**

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ11	29-Aug-14	pH	7	6	0.10	0.30	21.54
AQ11	29-Aug-14	Phosphorus	735	752	10.00	30	2.29
AQ11	29-Aug-14	Phosphorus, Available	5	4	2.00	6.00	22.22
AQ11	29-Aug-14	Potassium	1360	1330	10.00	30.00	2.23
AQ11	29-Aug-14	Potassium, Available	76	61	5.00	15.00	21.90
AQ11	29-Aug-14	Selenium	1	1	0.50	1.50	0.00
AQ11	29-Aug-14	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ11	29-Aug-14	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ11	29-Aug-14	Sodium	367	342	40.00	120.00	7.05
AQ11	29-Aug-14	Sodium, Available	49	24	5.00	15.00	**68**
AQ11	29-Aug-14	Strontium	48	52	0.20	0.60	6.62
AQ11	29-Aug-14	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ11	29-Aug-14	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ11	29-Aug-14	Thallium	0	0	0.10	0.30	0.00
AQ11	29-Aug-14	Thorium	9	9	0.50	1.50	3.31
AQ11	29-Aug-14	Tin	1	1	0.20	0.60	25.00
AQ11	29-Aug-14	Titanium	1260	1150	2.00	6.00	9.13
AQ11	29-Aug-14	Uranium	9	11	0.10	0.30	23.53
AQ11	29-Aug-14	Vanadium	61	61	0.40	1.20	0.16
AQ11	29-Aug-14	Zinc	85	92	2.00	6.00	7.91
AQ11	29-Aug-14	Zirconium	4	4	2.00	6.00	0.00
AQ13	30-Aug-14	Aluminum	19300	19200	20	60.00	0.52
AQ13	30-Aug-14	Ammonia as N, Available	<1.0	<1.0	1.00	3.00	0.00
AQ13	30-Aug-14	Antimony	1	1	0.10	0.30	0.00
AQ13	30-Aug-14	Arsenic	22	24	0.40	1.20	10.57
AQ13	30-Aug-14	Barium	151	149	1.00	3.00	1.33
AQ13	30-Aug-14	Beryllium	1	1	0.10	0.30	13.33
AQ13	30-Aug-14	Bismuth	0	0	0.10	0.30	**40**
AQ13	30-Aug-14	Boron	<2	2	2.00	6.00	**67**
AQ13	30-Aug-14	Cadmium	0	0	0.04	0.12	17.14
AQ13	30-Aug-14	Calcium	7460	7480	100.00	300.00	0.27
AQ13	30-Aug-14	Calcium, Available	3650	3700	5.00	15.00	1.36
AQ13	30-Aug-14	Carbon, Total Organic	5	4	0.05	0.15	17.46
AQ13	30-Aug-14	Chromium	52	54	1.00	3.00	4.71
AQ13	30-Aug-14	Cobalt	11	11	0.10	0.30	0.89
AQ13	30-Aug-14	Copper	20	20	0.20	0.60	2.03
AQ13	30-Aug-14	Iron	25100	24900	20.00	60.00	0.80
AQ13	30-Aug-14	Lead	10	10	0.20	0.60	5.03
AQ13	30-Aug-14	Lithium	15	14	0.10	0.30	2.08

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ13	30-Aug-14	Magnesium	7290	7590	10.00	30.00	4.03
AQ13	30-Aug-14	Magnesium, Available	200	230	5.00	15.00	13.95
AQ13	30-Aug-14	Manganese	632	558	0.40	1.20	12.44
AQ13	30-Aug-14	Mercury	0	0	0.05	0.15	15.38
AQ13	30-Aug-14	Molybdenum	1	1	0.10	0.30	0.00
AQ13	30-Aug-14	Nickel	30	32	0.40	1.20	5.53
AQ13	30-Aug-14	Nitrate as N, Available	1	1	1.00	3.00	15.38
AQ13	30-Aug-14	pH	7	7	0.10	0.30	2.99
AQ13	30-Aug-14	Phosphorus	498	486	10.00	30.00	2.44
AQ13	30-Aug-14	Phosphorus, Available	10	9	2.00	6.00	10.53
AQ13	30-Aug-14	Potassium	1890	1960	10.00	30.00	3.64
AQ13	30-Aug-14	Potassium, Available	91	114	5.00	15.00	22.44
AQ13	30-Aug-14	Selenium	1	1	0.50	1.50	0.00
AQ13	30-Aug-14	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ13	30-Aug-14	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ13	30-Aug-14	Sodium	288	291	40.00	120.00	1.04
AQ13	30-Aug-14	Sodium, Available	29	26	5.00	15.00	10.91
AQ13	30-Aug-14	Strontium	53	53	0.20	0.60	0.19
AQ13	30-Aug-14	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ13	30-Aug-14	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ13	30-Aug-14	Thallium	0	0	0.10	0.30	0.00
AQ13	30-Aug-14	Thorium	12	11	0.50	1.50	4.33
AQ13	30-Aug-14	Tin	1	1	0.20	0.60	0.00
AQ13	30-Aug-14	Titanium	1130	1200	2.00	6.00	6.01
AQ13	30-Aug-14	Uranium	7	7	0.10	0.30	0.00
AQ13	30-Aug-14	Vanadium	49	48	0.40	1.20	2.87
AQ13	30-Aug-14	Zinc	66	64	2.00	6.00	3.08
AQ13	30-Aug-14	Zirconium	4	3	2.00	6.00	**29**
AQ30	29-Aug-14	Aluminum	15100	15100	20	60.00	0.00
AQ30	29-Aug-14	Ammonia as N, Available	5	7	1.00	3.00	**33**
AQ30	29-Aug-14	Antimony	1	1	0.10	0.30	0.00
AQ30	29-Aug-14	Arsenic	15	16	0.40	1.20	5.98
AQ30	29-Aug-14	Barium	202	211	1.00	3.00	4.36
AQ30	29-Aug-14	Beryllium	1	1	0.10	0.30	15.38
AQ30	29-Aug-14	Bismuth	0	0	0.10	0.30	**40**
AQ30	29-Aug-14	Boron	2	2	2.00	6.00	0.00
AQ30	29-Aug-14	Cadmium	0	0	0.04	0.12	0.00
AQ30	29-Aug-14	Calcium	7970	8330	100.00	300.00	4.42
AQ30	29-Aug-14	Calcium, Available	4700	4500	5.00	15.00	4.35

Notes:

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RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ30	29-Aug-14	Carbon, Total Organic	5	6	0.05	0.15	24.78
AQ30	29-Aug-14	Chromium	31	31	1.00	3	0.96
AQ30	29-Aug-14	Cobalt	10	10	0.10	0.30	1.94
AQ30	29-Aug-14	Copper	20	21	0.20	0.60	3.46
AQ30	29-Aug-14	Iron	24600	24900	20.00	60.00	1.21
AQ30	29-Aug-14	Lead	12	13	0.20	0.60	4.72
AQ30	29-Aug-14	Lithium	13	13	0.10	0.30	3.15
AQ30	29-Aug-14	Magnesium	5920	5920	10.00	30.00	0.00
AQ30	29-Aug-14	Magnesium, Available	385	410	5.00	15.00	6.29
AQ30	29-Aug-14	Manganese	544	585	0.40	1.20	7.26
AQ30	29-Aug-14	Mercury	0	0	0.05	0.15	**35**
AQ30	29-Aug-14	Molybdenum	1	1	0.10	0.30	0.00
AQ30	29-Aug-14	Nickel	20	20	0.40	1.20	0.00
AQ30	29-Aug-14	Nitrate as N, Available	2	2	1.00	3.00	18.18
AQ30	29-Aug-14	pH	7	7	0.10	0.30	1.48
AQ30	29-Aug-14	Phosphorus	609	576	10.00	30.00	5.57
AQ30	29-Aug-14	Phosphorus, Available	6	7	2.00	6.00	15.38
AQ30	29-Aug-14	Potassium	1250	1290	10.00	30.00	3.15
AQ30	29-Aug-14	Potassium, Available	71	94	5.00	15.00	**28**
AQ30	29-Aug-14	Selenium	1	1	0.50	1.50	0.00
AQ30	29-Aug-14	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ30	29-Aug-14	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ30	29-Aug-14	Sodium	230	229	40.00	120.00	0.44
AQ30	29-Aug-14	Sodium, Available	29	30	5.00	15.00	3.39
AQ30	29-Aug-14	Strontium	60	62	0.20	0.60	3.27
AQ30	29-Aug-14	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ30	29-Aug-14	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ30	29-Aug-14	Thallium	0	0	0.10	0.30	0.00
AQ30	29-Aug-14	Thorium	12	12	0.50	1.50	0.00
AQ30	29-Aug-14	Tin	1	1	0.20	0.60	0.00
AQ30	29-Aug-14	Titanium	786	722	2.00	6.00	8.49
AQ30	29-Aug-14	Uranium	7	8	0.10	0.30	8.33
AQ30	29-Aug-14	Vanadium	47	46	0.40	1.20	1.50
AQ30	29-Aug-14	Zinc	64	64	2.00	6.00	0.00
AQ30	29-Aug-14	Zirconium	3	3	2.00	6.00	0.00
AQ02	26-Jul-15	Aluminum	17400	16700	20.00	60.00	4.11
AQ02	26-Jul-15	Ammonia as N, Available	8	9	1.00	3.00	15.03
AQ02	26-Jul-15	Antimony	1	0	0.10	0.30	22.22
AQ02	26-Jul-15	Arsenic	9	8	0.40	1.20	2.38

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Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ02	26-Jul-15	Barium	201	191	1.00	3.00	5.10
AQ02	26-Jul-15	Beryllium	0	0	0.10	0.30	0.00
AQ02	26-Jul-15	Bismuth	0	0	0.10	0.30	0.00
AQ02	26-Jul-15	Boron	2	2	2.00	6.00	0.00
AQ02	26-Jul-15	Cadmium	0	0	0.04	0.12	4.44
AQ02	26-Jul-15	Calcium	7700	6970	100.00	300.00	9.95
AQ02	01-Aug-15	Calcium, Available	2430	2050	5.00	15.00	16.96
AQ02	26-Jul-15	Carbon, Total Organic	6	7	0.05	0.15	17.64
AQ02	26-Jul-15	Chromium	31	30	1.00	3.00	4.96
AQ02	26-Jul-15	Cobalt	11	10	0.10	0.30	7.55
AQ02	26-Jul-15	Copper	20	18	0.20	0.60	10.31
AQ02	26-Jul-15	Iron	25800	24600	20.00	60.00	4.76
AQ02	26-Jul-15	Lead	7	7	0.20	0.60	4.44
AQ02	26-Jul-15	Lithium	14	13	0.10	0.30	5.20
AQ02	26-Jul-15	Magnesium	6770	6550	10.00	30.00	3.30
AQ02	01-Aug-15	Magnesium, Available	421	370	5.00	15.00	12.90
AQ02	26-Jul-15	Manganese	569	519	0.40	1.20	9.19
AQ02	26-Jul-15	Mercury	0	0	0.05	0.15	13.33
AQ02	26-Jul-15	Moisture	57	51	0.10	0.30	11.03
AQ02	26-Jul-15	Molybdenum	1	1	0.10	0.30	11.76
AQ02	26-Jul-15	Nickel	19	18	0.40	1.20	5.35
AQ02	26-Jul-15	Nitrate as N, Available	2	1	1.00	3.00	**53**
AQ02	26-Jul-15	pH	6	6	0.10	0.30	1.60
AQ02	26-Jul-15	Phosphorus	637	655	10.00	30.00	2.79
AQ02	26-Jul-15	Phosphorus, Available	4	3	2.00	6.00	**29**
AQ02	26-Jul-15	Potassium	1260	1190	10.00	30.00	5.71
AQ02	26-Jul-15	Potassium, Available	130	103	5.00	15.00	23.18
AQ02	26-Jul-15	Selenium	1	1	0.50	1.50	**29**
AQ02	26-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ02	26-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ02	26-Jul-15	Sodium	273	288	40.00	120.00	5.35
AQ02	01-Aug-15	Sodium, Available	34	20	5.00	15.00	**52**
AQ02	26-Jul-15	Strontium	44	41	0.20	0.60	6.57
AQ02	26-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ02	26-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ02	26-Jul-15	Thallium	0	0	0.10	0.30	0.00
AQ02	26-Jul-15	Thorium	5	5	0.50	1.50	0.00
AQ02	26-Jul-15	Tin	1	1	0.20	0.60	18.18
AQ02	26-Jul-15	Titanium	1070	1080	2.00	6.00	0.93

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Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ02	26-Jul-15	Uranium	8	6	0.10	0.30	24.46
AQ02	26-Jul-15	Vanadium	56	55	0.40	1.20	2.15
AQ02	26-Jul-15	Zinc	70	67	2.00	6.00	4.38
AQ02	26-Jul-15	Zirconium	2	2	2.00	6.00	0.00
AQREF1	27-Jul-15	Aluminum	13200	14500	20.00	60.00	9.39
AQREF1	27-Jul-15	Antimony	2	2	0.10	0.30	0.00
AQREF1	27-Jul-15	Arsenic	12	11	0.40	1.20	5.36
AQREF1	27-Jul-15	Barium	322	325	1.00	3.00	0.93
AQREF1	27-Jul-15	Beryllium	1	1	0.10	0.30	0.00
AQREF1	27-Jul-15	Bismuth	0	0	0.10	0.30	0.00
AQREF1	27-Jul-15	Boron	2	2	2.00	6.00	0.00
AQREF1	27-Jul-15	Cadmium	0	0	0.04	0.12	0.00
AQREF1	27-Jul-15	Calcium	9070	9340	100.00	300.00	2.93
AQREF1	27-Jul-15	Carbon, Total Organic	4	6	0.05	0.15	**26**
AQREF1	27-Jul-15	Chromium	27	27	1.00	3.00	0.00
AQREF1	27-Jul-15	Cobalt	9	9	0.10	0.30	6.74
AQREF1	27-Jul-15	Copper	22	22	0.20	0.60	1.35
AQREF1	27-Jul-15	Iron	20600	21400	20.00	60.00	3.81
AQREF1	27-Jul-15	Lead	10	10	0.20	0.60	6.12
AQREF1	27-Jul-15	Lithium	12	12	0.10	0.30	5.91
AQREF1	27-Jul-15	Magnesium	6080	6240	10.00	30.00	2.60
AQREF1	27-Jul-15	Manganese	242	199	0.40	1.20	19.50
AQREF1	27-Jul-15	Mercury	0	0	0.05	0.15	0.00
AQREF1	27-Jul-15	Moisture	64	56	0.10	0.30	13.20
AQREF1	27-Jul-15	Molybdenum	1	1	0.10	0.30	0.00
AQREF1	27-Jul-15	Nickel	21	21	0.40	1.20	0.49
AQREF1	27-Jul-15	pH	7	7	0.10	0.30	1.53
AQREF1	27-Jul-15	Phosphorus	771	829	10.00	30.00	7.25
AQREF1	27-Jul-15	Potassium	884	1040	10.00	30.00	16.22
AQREF1	27-Jul-15	Selenium	1	1	0.50	1.50	18.18
AQREF1	27-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQREF1	27-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQREF1	27-Jul-15	Sodium	225	246	40.00	120.00	8.92
AQREF1	27-Jul-15	Strontium	61	60	0.20	0.60	1.66
AQREF1	27-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQREF1	27-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQREF1	27-Jul-15	Thallium	0	0	0.10	0.30	**67**
AQREF1	27-Jul-15	Thorium	6	6	0.50	1.50	8.26
AQREF1	27-Jul-15	Tin	0	1	0.20	0.60	22.22

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Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQREF1	27-Jul-15	Titanium	700	758	2.00	6.00	7.96
AQREF1	27-Jul-15	Uranium	5	4	0.10	0.30	2.25
AQREF1	27-Jul-15	Vanadium	46	49	0.40	1.20	7.36
AQREF1	27-Jul-15	Zinc	70	71	2.00	6.00	1.42
AQREF1	27-Jul-15	Zirconium	<2	<2	2.00	6.00	0.00
AQ10	28-Jul-15	Aluminum	16100	14700	20.00	60.00	9.09
AQ10	28-Jul-15	Ammonia as N, Available	11	11	1.00	3.00	0.00
AQ10	28-Jul-15	Antimony	1	1	0.10	0.30	0.00
AQ10	28-Jul-15	Arsenic	12	9	0.40	1.20	**26**
AQ10	28-Jul-15	Barium	164	149	1.00	3.00	9.58
AQ10	28-Jul-15	Beryllium	0	0	0.10	0.30	**29**
AQ10	28-Jul-15	Bismuth	0	0	0.10	0.30	0.00
AQ10	28-Jul-15	Boron	2	<2	2.00	6.00	**67**
AQ10	28-Jul-15	Cadmium	0	0	0.04	0.12	25.00
AQ10	28-Jul-15	Calcium	7530	6340	100.00	300.00	17.16
AQ10	28-Jul-15	Calcium, Available	1790	1640	5.00	15.00	8.75
AQ10	28-Jul-15	Carbon, Total Organic	4	4	0.05	0.15	13.24
AQ10	28-Jul-15	Chromium	32	29	1.00	3.00	9.18
AQ10	28-Jul-15	Cobalt	11	10	0.10	0.30	13.73
AQ10	28-Jul-15	Copper	16	14	0.20	0.60	12.71
AQ10	28-Jul-15	Iron	23900	21500	20.00	60.00	10.57
AQ10	28-Jul-15	Lead	10	9	0.20	0.60	10.53
AQ10	28-Jul-15	Lithium	14	13	0.10	0.30	14.13
AQ10	28-Jul-15	Magnesium	5970	5710	10.00	30.00	4.45
AQ10	28-Jul-15	Magnesium, Available	279	275	5.00	15.00	1.44
AQ10	28-Jul-15	Manganese	605	479	0.40	1.20	23.25
AQ10	28-Jul-15	Mercury	0	<0.05	0.05	0.15	**82**
AQ10	28-Jul-15	Moisture	51	44	0.10	0.30	13.70
AQ10	28-Jul-15	Molybdenum	1	1	0.10	0.30	15.38
AQ10	28-Jul-15	Nickel	21	19	0.40	1.20	10.53
AQ10	28-Jul-15	Nitrate as N, Available	3	3	1.00	3.00	6.90
AQ10	28-Jul-15	pH	6	6	0.10	0.30	3.23
AQ10	28-Jul-15	Phosphorus	700	650	10.00	30.00	7.41
AQ10	28-Jul-15	Phosphorus, Available	4	8	2.00	6.00	**67**
AQ10	28-Jul-15	Potassium	1050	942	10.00	30.00	10.84
AQ10	28-Jul-15	Potassium, Available	100	91	5.00	15.00	9.42
AQ10	28-Jul-15	Selenium	1	1	0.50	1.50	13.33
AQ10	28-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ10	28-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00

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Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ10	28-Jul-15	Sodium	279	254	40.00	120.00	9.38
AQ10	28-Jul-15	Sodium, Available	20	19	5.00	15.00	5.13
AQ10	28-Jul-15	Strontium	40	34	0.20	0.60	17.20
AQ10	28-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ10	28-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ10	28-Jul-15	Thallium	0	0	0.10	0.30	**67**
AQ10	28-Jul-15	Thorium	7	6	0.50	1.50	16.30
AQ10	28-Jul-15	Tin	1	1	0.20	0.60	0.00
AQ10	28-Jul-15	Titanium	1090	1040	2.00	6.00	4.69
AQ10	28-Jul-15	Uranium	5	4	0.10	0.30	**37**
AQ10	28-Jul-15	Vanadium	52	46	0.40	1.20	11.64
AQ10	28-Jul-15	Zinc	73	68	2.00	6.00	7.09
AQ10	28-Jul-15	Zirconium	2	2	2.00	6.00	0.00
AQ04	29-Jul-15	Aluminum	18200	17500	20.00	60.00	3.92
AQ04	29-Jul-15	Ammonia as N, Available	9	11	1.00	3.00	16.75
AQ04	29-Jul-15	Antimony	1	1	0.10	0.30	0.00
AQ04	29-Jul-15	Arsenic	12	11	0.40	1.20	9.87
AQ04	29-Jul-15	Barium	184	170	1.00	3.00	7.91
AQ04	29-Jul-15	Beryllium	1	1	0.10	0.30	18.18
AQ04	29-Jul-15	Bismuth	0	0	0.10	0.30	0.00
AQ04	29-Jul-15	Boron	2	2	2.00	6.00	0.00
AQ04	29-Jul-15	Cadmium	0	0	0.04	0.12	3.51
AQ04	29-Jul-15	Calcium	7490	7230	100.00	300.00	3.53
AQ04	29-Jul-15	Calcium, Available	2210	2140	5.00	15.00	3.22
AQ04	29-Jul-15	Carbon, Total Organic	5	5	0.05	0.15	3.18
AQ04	29-Jul-15	Chromium	33	31	1.00	3.00	6.27
AQ04	29-Jul-15	Cobalt	11	10	0.10	0.30	4.69
AQ04	29-Jul-15	Copper	18	15	0.20	0.60	13.90
AQ04	29-Jul-15	Iron	25400	23500	20.00	60.00	7.77
AQ04	29-Jul-15	Lead	11	11	0.20	0.60	1.77
AQ04	29-Jul-15	Lithium	16	16	0.10	0.30	0.63
AQ04	29-Jul-15	Magnesium	6450	5930	10.00	30.00	8.40
AQ04	29-Jul-15	Magnesium, Available	364	314	5.00	15.00	14.75
AQ04	29-Jul-15	Manganese	726	548	0.40	1.20	**28**
AQ04	29-Jul-15	Mercury	0	0	0.05	0.15	0.00
AQ04	29-Jul-15	Moisture	37	49	0.10	0.30	**29**
AQ04	29-Jul-15	Molybdenum	1	1	0.10	0.30	15.38
AQ04	29-Jul-15	Nickel	22	20	0.40	1.20	7.58
AQ04	29-Jul-15	Nitrate as N, Available	2	1	1.00	3.00	20.69

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Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ04	29-Jul-15	pH	7	7	0.10	0.30	1.48
AQ04	29-Jul-15	Phosphorus	573	532	10.00	30.00	7.42
AQ04	29-Jul-15	Phosphorus, Available	5	2	2.00	6.00	**86**
AQ04	29-Jul-15	Potassium	1140	1020	10.00	30.00	11.11
AQ04	29-Jul-15	Potassium, Available	80	63	5.00	15.00	23.78
AQ04	29-Jul-15	Selenium	2	2	0.50	1.50	5.13
AQ04	29-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ04	29-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ04	29-Jul-15	Sodium	242	237	40.00	120.00	2.09
AQ04	29-Jul-15	Sodium, Available	20	19	5.00	15.00	5.13
AQ04	29-Jul-15	Strontium	62	61	0.20	0.60	2.44
AQ04	29-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ04	29-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ04	29-Jul-15	Thallium	0	0	0.10	0.30	0.00
AQ04	29-Jul-15	Thorium	11	11	0.50	1.50	2.82
AQ04	29-Jul-15	Tin	1	1	0.20	0.60	0.00
AQ04	29-Jul-15	Titanium	952	922	2.00	6.00	3.20
AQ04	29-Jul-15	Uranium	13	12	0.10	0.30	4.05
AQ04	29-Jul-15	Vanadium	50	45	0.40	1.20	11.42
AQ04	29-Jul-15	Zinc	74	74	2.00	6.00	0.00
AQ04	29-Jul-15	Zirconium	2	2	2.00	6.00	0.00
AQ13	30-Jul-15	Aluminum	17900	17200	20.00	60.00	3.99
AQ13	30-Jul-15	Ammonia as N, Available	10	5	1.00	3.00	**61**
AQ13	30-Jul-15	Antimony	1	1	0.10	0.30	0.00
AQ13	30-Jul-15	Arsenic	23	20	0.40	1.20	10.77
AQ13	30-Jul-15	Barium	137	132	1.00	3.00	3.72
AQ13	30-Jul-15	Beryllium	1	1	0.10	0.30	18.18
AQ13	30-Jul-15	Bismuth	0	0	0.10	0.30	**40**
AQ13	30-Jul-15	Boron	<2	<2	2.00	6.00	0.00
AQ13	30-Jul-15	Cadmium	0	0	0.04	0.12	**26**
AQ13	30-Jul-15	Calcium	7090	6060	100.00	300.00	15.67
AQ13	30-Jul-15	Calcium, Available	2700	2400	5.00	15.00	11.76
AQ13	30-Jul-15	Carbon, Total Organic	4	3	0.05	0.15	**47**
AQ13	30-Jul-15	Chromium	48	49	1.00	3.00	1.03
AQ13	30-Jul-15	Cobalt	10	10	0.10	0.30	4.08
AQ13	30-Jul-15	Copper	18	17	0.20	0.60	3.43
AQ13	30-Jul-15	Iron	23300	23300	20.00	60.00	0.00
AQ13	30-Jul-15	Lead	8	8	0.20	0.60	6.29
AQ13	30-Jul-15	Lithium	12	12	0.10	0.30	1.63

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ13	30-Jul-15	Magnesium	7120	7220	10.00	30.00	1.39
AQ13	30-Jul-15	Magnesium, Available	210	210	5.00	15.00	0.00
AQ13	30-Jul-15	Manganese	635	413	0.40	1.20	**42**
AQ13	30-Jul-15	Mercury	0	<0.05	0.05	0.15	**82**
AQ13	30-Jul-15	Moisture	62	40	0.10	0.30	**44**
AQ13	30-Jul-15	Molybdenum	1	1	0.10	0.30	0.00
AQ13	30-Jul-15	Nickel	28	28	0.40	1.20	2.15
AQ13	30-Jul-15	Nitrate as N, Available	3	2	1.00	3.00	**62**
AQ13	30-Jul-15	pH	6	6	0.10	0.30	5.31
AQ13	30-Jul-15	Phosphorus	469	526	10.00	30.00	11.46
AQ13	30-Jul-15	Phosphorus, Available	2	5	2.00	6.00	**86**
AQ13	30-Jul-15	Potassium	1710	1950	10.00	30.00	13.11
AQ13	30-Jul-15	Potassium, Available	92	108	5.00	15.00	16.00
AQ13	30-Jul-15	Selenium	2	1	0.50	1.50	**91**
AQ13	30-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ13	30-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ13	30-Jul-15	Sodium	240	263	40.00	120.00	9.15
AQ13	30-Jul-15	Sodium, Available	28	24	5.00	15.00	15.38
AQ13	30-Jul-15	Strontium	46	41	0.20	0.60	10.60
AQ13	30-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ13	30-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ13	30-Jul-15	Thallium	0	0	0.10	0.30	0.00
AQ13	30-Jul-15	Thorium	10	10	0.50	1.50	0.00
AQ13	30-Jul-15	Tin	1	1	0.20	0.60	0.00
AQ13	30-Jul-15	Titanium	1060	1160	2.00	6.00	9.01
AQ13	30-Jul-15	Uranium	4	3	0.10	0.30	**44**
AQ13	30-Jul-15	Vanadium	44	46	0.40	1.20	4.02
AQ13	30-Jul-15	Zinc	57	55	2.00	6.00	3.57
AQ13	30-Jul-15	Zirconium	<2	<2	2.00	6.00	0.00
AQ20	30-Jul-15	Aluminum	14900	15800	20.00	60.00	5.86
AQ20	30-Jul-15	Ammonia as N, Available	8	10	1.00	3.00	22.22
AQ20	30-Jul-15	Antimony	1	1	0.10	0.30	20.00
AQ20	30-Jul-15	Arsenic	14	13	0.40	1.20	9.74
AQ20	30-Jul-15	Barium	179	191	1.00	3.00	6.49
AQ20	30-Jul-15	Beryllium	1	1	0.10	0.30	18.18
AQ20	30-Jul-15	Bismuth	0	0	0.10	0.30	**67**
AQ20	30-Jul-15	Boron	2	3	2.00	6.00	**40**
AQ20	30-Jul-15	Cadmium	0	0	0.04	0.12	12.50
AQ20	30-Jul-15	Calcium	9550	10600	100.00	300.00	10.42

Notes:

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Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ20	30-Jul-15	Calcium, Available	3570	3790	5.00	15.00	5.98
AQ20	30-Jul-15	Carbon, Total Organic	11	11	0.05	0.15	0.95
AQ20	30-Jul-15	Chromium	34	37	1.00	3.00	7.09
AQ20	30-Jul-15	Cobalt	9	8	0.10	0.30	13.02
AQ20	30-Jul-15	Copper	19	24	0.20	0.60	23.15
AQ20	30-Jul-15	Iron	21200	20100	20.00	60.00	5.33
AQ20	30-Jul-15	Lead	7	8	0.20	0.60	2.70
AQ20	30-Jul-15	Lithium	14	16	0.10	0.30	14.24
AQ20	30-Jul-15	Magnesium	6280	6440	10.00	30.00	2.52
AQ20	30-Jul-15	Magnesium, Available	514	486	5.00	15.00	5.60
AQ20	30-Jul-15	Manganese	433	238	0.40	1.20	**58**
AQ20	30-Jul-15	Mercury	0	0	0.05	0.15	**29**
AQ20	30-Jul-15	Moisture	49	43	0.10	0.30	12.43
AQ20	30-Jul-15	Molybdenum	1	1	0.10	0.30	18.18
AQ20	30-Jul-15	Nickel	23	24	0.40	1.20	6.84
AQ20	30-Jul-15	Nitrate as N, Available	2	4	1.00	3.00	**46**
AQ20	30-Jul-15	pH	7	7	0.10	0.30	0.00
AQ20	30-Jul-15	Phosphorus	667	680	10.00	30.00	1.93
AQ20	30-Jul-15	Phosphorus, Available	2	3	2.00	6.00	**40**
AQ20	30-Jul-15	Potassium	1220	1110	10.00	30.00	9.44
AQ20	30-Jul-15	Potassium, Available	99	81	5.00	15.00	20.00
AQ20	30-Jul-15	Selenium	1	<0.5	0.50	1.50	**131**
AQ20	30-Jul-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ20	30-Jul-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ20	30-Jul-15	Sodium	210	198	40.00	120.00	5.88
AQ20	30-Jul-15	Sodium, Available	21	21	5.00	15.00	0.00
AQ20	30-Jul-15	Strontium	82	93	0.20	0.60	12.42
AQ20	30-Jul-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ20	30-Jul-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ20	30-Jul-15	Thallium	0	0	0.10	0.30	**67**
AQ20	30-Jul-15	Thorium	8	9	0.50	1.50	4.65
AQ20	30-Jul-15	Tin	1	1	0.20	0.60	0.00
AQ20	30-Jul-15	Titanium	763	742	2.00	6.00	2.79
AQ20	30-Jul-15	Uranium	28	29	0.10	0.30	3.52
AQ20	30-Jul-15	Vanadium	40	35	0.40	1.20	12.27
AQ20	30-Jul-15	Zinc	57	54	2.00	6.00	5.41
AQ20	30-Jul-15	Zirconium	3	3	2.00	6.00	0.00
AQ04.5	01-Aug-15	Aluminum	15500	16400	20.00	60.00	5.64
AQ04.5	01-Aug-15	Ammonia as N, Available	12	9	1.00	3.00	**25**

Notes:

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Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ04.5	01-Aug-15	Antimony	1	1	0.10	0.30	0.00
AQ04.5	01-Aug-15	Arsenic	13	14	0.40	1.20	6.74
AQ04.5	01-Aug-15	Barium	152	172	1.00	3.00	12.35
AQ04.5	01-Aug-15	Beryllium	1	0	0.10	0.30	22.22
AQ04.5	01-Aug-15	Bismuth	0	0	0.10	0.30	0.00
AQ04.5	01-Aug-15	Boron	<2	<2	2.00	6.00	0.00
AQ04.5	01-Aug-15	Cadmium	0	0	0.04	0.12	**31**
AQ04.5	01-Aug-15	Calcium	4980	5180	100.00	300.00	3.94
AQ04.5	01-Aug-15	Calcium, Available	1570	1820	5.00	15.00	14.75
AQ04.5	01-Aug-15	Carbon, Total Organic	7	8	0.05	0.15	17.46
AQ04.5	01-Aug-15	Chromium	26	27	1.00	3.00	5.65
AQ04.5	01-Aug-15	Cobalt	9	13	0.10	0.30	**34**
AQ04.5	01-Aug-15	Copper	12	13	0.20	0.60	7.87
AQ04.5	01-Aug-15	Iron	22700	23600	20.00	60.00	3.89
AQ04.5	01-Aug-15	Lead	11	12	0.20	0.60	8.77
AQ04.5	01-Aug-15	Lithium	12	12	0.10	0.30	2.49
AQ04.5	01-Aug-15	Magnesium	4880	5000	10.00	30.00	2.43
AQ04.5	01-Aug-15	Magnesium, Available	250	271	5.00	15.00	8.06
AQ04.5	01-Aug-15	Manganese	1110	1680	0.40	1.20	**41**
AQ04.5	01-Aug-15	Mercury	0	0	0.05	0.15	8.70
AQ04.5	01-Aug-15	Moisture	56	59	0.10	0.30	4.53
AQ04.5	01-Aug-15	Molybdenum	1	1	0.10	0.30	13.33
AQ04.5	01-Aug-15	Nickel	16	17	0.40	1.20	9.17
AQ04.5	01-Aug-15	Nitrate as N, Available	4	3	1.00	3.00	**31**
AQ04.5	01-Aug-15	pH	6	6	0.10	0.30	3.45
AQ04.5	01-Aug-15	Phosphorus	528	577	10.00	30.00	8.87
AQ04.5	01-Aug-15	Phosphorus, Available	3	4	2.00	6.00	**29**
AQ04.5	01-Aug-15	Potassium	741	739	10.00	30.00	0.27
AQ04.5	01-Aug-15	Potassium, Available	171	146	5.00	15.00	15.77
AQ04.5	01-Aug-15	Selenium	<0.5	1	0.50	1.50	**82**
AQ04.5	01-Aug-15	Silicon	<3000	<3000	3000.00	9000.00	0.00
AQ04.5	01-Aug-15	Silver	<0.2	<0.2	0.20	0.60	0.00
AQ04.5	01-Aug-15	Sodium	187	180	40.00	120.00	3.81
AQ04.5	01-Aug-15	Sodium, Available	19	16	5.00	15.00	17.14
AQ04.5	01-Aug-15	Strontium	36	39	0.20	0.60	8.19
AQ04.5	01-Aug-15	Sulfur	<1000	<1000	1000.00	3000.00	0.00
AQ04.5	01-Aug-15	Tellurium	<0.1	<0.1	0.10	0.30	0.00
AQ04.5	01-Aug-15	Thallium	0	0	0.10	0.30	0.00
AQ04.5	01-Aug-15	Thorium	10	10	0.50	1.50	0.00

Notes:

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Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix B2. Sediment Quality Replicate Data, Coffee Gold Project, 2014-2015

Site	Date	Parameter	Value	Replicate Value	RDL	PQL	RPD
AQ04.5	01-Aug-15	Tin	1	1	0.20	0.60	0.00
AQ04.5	01-Aug-15	Titanium	826	759	2.00	6.00	8.45
AQ04.5	01-Aug-15	Uranium	7	6	0.10	0.30	13.74
AQ04.5	01-Aug-15	Vanadium	46	48	0.40	1.20	3.60
AQ04.5	01-Aug-15	Zinc	68	69	2.00	6.00	1.46
AQ04.5	01-Aug-15	Zirconium	<2	<2	2.00	6.00	0.00

Notes:

Bold	*Exceeds Data Quality objective of 25%, but does not meet Practical Quantitation Limit (PQL)*
Bold	*Exceeds Data Quality objective of 25%.*
RPD	*Relative Percent Difference.*
RDL	*Reporting Detection Limit*

Appendix C

Periphyton

- **C1. Periphyton Biomass, Coffee Gold Project, 2014-2015**
- **C2. Periphyton Taxonomy, Coffee Gold Project, 2014-2015**

Appendix C1. Chlorophyll *a* and Periphyton Ash-free Dry Mass 2014-2015

2014			SITE	AQ11	AQ10	AQ20	AQ30	AQ00	AQREF1	AQ02	AQ04	AQ05	AQ13
			DATE SAMPLED	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14	31-Aug-14
Analyte	Units	MRL	DATE RECEIVED	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14	04-Sep-14
Solids, Total Volatile	mg/L	10		60	63	84	93	40	67	59	64	49	53
Chlorophyll-a	µg/L	0.1		10	12	19	9	12	33	22	12	9	10

Note: Recommended holding times were surpassed for chlorophyll a analyses, but not for ash-free dry mass.

Recommended sample temperatures (1-8°C) may have been exceeded during transport to the lab.

MRL= Method Reporting Limit

2015			SITE	AQ11	AQ10	AQ20	AQ30	AQ00	AQREF1	AQ02	AQ04	AQ04.5	AQ13	AQREF2
			DATE SAMPLED	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15	01-Aug-15
Analyte	Units	MRL	DATE RECEIVED	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15	06-Aug-15
Solids, Total Volatile	mg/L	10		37	83	160	37	47	73	90	53	43	70	93
Chlorophyll-a	µg/L	0.1		12	23.5	23.6	29	12.7	20.8	26.6	11	24.3	23.7	19

Note: Recommended holding times were surpassed for chlorophyll a analyses, but not for ash-free dry mass.

MRL= Method Reporting Limit

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ00	31-Aug-14	1014	Chroococcus limneticus Lemmermann	0.06	1134.82	6.00	4.00	50.30
AQ00	31-Aug-14	1084	Gloeocapsa punctata	1.16	26100.80	4.40	4.40	44.60
AQ00	31-Aug-14	1102	Gloeothece sp.	0.12	24398.58	2.10	2.10	4.80
AQ00	31-Aug-14	1122	Phormidium autumnale Agardh	3.02	1134.82	94.00	6.00	2657.80
AQ00	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.45	6808.90	21.00	2.00	66.00
AQ00	31-Aug-14	1223	Chamaesiphon incrustans Smith	2.95	76032.77	6.80	3.30	38.80
AQ00	31-Aug-14	2231	Bulbochaete sp.	1.94	2837.04	13.60	8.00	683.60
AQ00	31-Aug-14	5702	Achnanthes minutissima Kutzing	0.97	12482.99	18.60	4.00	77.90
AQ00	31-Aug-14	5768	Nitzschia linearis W. Smith	0.09	567.41	36.00	4.00	150.80
AQ00	31-Aug-14	5826	Cymbella gracilis (Rabhorst) Cleve	0.66	567.41	46.00	8.00	1156.10
AQ00	31-Aug-14	5860	Diatoma vulgare Bory	1.67	6808.90	26.00	6.00	245.00
AQ00	31-Aug-14	5873	Gomphonema minutum	0.72	1702.23	25.40	8.00	425.60
AQ00	31-Aug-14	5916	Fragilaria capucina Grunow	0.33	567.41	61.00	6.00	574.90
AQ02	31-Aug-14	1077	Pseudoanabaena sp.	0.12	1337.46	26.00	2.10	90.10
AQ02	31-Aug-14	1084	Gloeocapsa punctata	0.45	13374.63	4.00	4.00	33.50
AQ02	31-Aug-14	1102	Gloeothece sp.	0.03	4681.12	2.20	2.20	5.60
AQ02	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.72	10699.71	21.30	2.00	66.90
AQ02	31-Aug-14	1223	Chamaesiphon incrustans Smith	3.06	75566.68	7.10	3.30	40.50
AQ02	31-Aug-14	5702	Achnanthes minutissima Kutzing	4.82	62860.78	18.30	4.00	76.70
AQ02	31-Aug-14	5768	Nitzschia linearis W. Smith	0.33	2006.20	39.10	4.00	163.80
AQ02	31-Aug-14	5836	Encyonema silesiacum (Bleisch) D.G. Mann	1.58	1337.46	30.00	10.00	1178.10
AQ02	31-Aug-14	5860	Diatoma vulgare Bory	2.82	10699.71	28.00	6.00	263.90
AQ02	31-Aug-14	5873	Gomphonema minutum	0.60	1337.46	26.60	8.00	445.70
AQ04	31-Aug-14	1084	Gloeocapsa punctata	0.40	11014.40	4.10	4.10	36.10
AQ04	31-Aug-14	1102	Gloeothece sp.	0.21	28637.45	2.40	2.40	7.20
AQ04	31-Aug-14	1122	Phormidium autumnale Agardh	2.93	1101.44	94.00	6.00	2657.80
AQ04	31-Aug-14	1131	Heteroleibeinia profunda Komarek	1.37	23130.25	18.90	2.00	59.40
AQ04	31-Aug-14	1223	Chamaesiphon incrustans Smith	7.60	204867.93	6.50	3.30	37.10
AQ04	31-Aug-14	2231	Bulbochaete sp.	5.05	6608.64	15.20	8.00	764.00
AQ04	31-Aug-14	5702	Achnanthes minutissima Kutzing	0.18	2202.88	19.10	4.00	80.00
AQ04	31-Aug-14	5860	Diatoma vulgare Bory	0.62	2202.88	30.00	6.00	282.70
AQ04R	31-Aug-14	1084	Gloeocapsa punctata	0.48	13217.29	4.10	4.10	36.10
AQ04R	31-Aug-14	1102	Gloeothece sp.	0.25	34144.65	2.40	2.40	7.20
AQ04R	31-Aug-14	1122	Phormidium autumnale Agardh	6.23	2202.88	100.00	6.00	2827.40
AQ04R	31-Aug-14	1131	Heteroleibeinia profunda Komarek	1.24	20927.37	18.90	2.00	59.40
AQ04R	31-Aug-14	1223	Chamaesiphon incrustans Smith	6.91	186143.44	6.50	3.30	37.10
AQ04R	31-Aug-14	1239	Homoeothrix varians Komarek & Kalina	0.23	2202.88	33.00	2.00	103.70

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ04R	31-Aug-14	2231	Bulbochaete sp.	5.89	7710.08	15.20	8.00	764.00
AQ04R	31-Aug-14	5702	Achnanthes minutissima Kutzing	0.18	2202.88	19.10	4.00	80.00
AQ04R	31-Aug-14	5768	Nitzschia linearis W. Smith	0.40	1101.44	38.40	6.00	361.90
AQ04R	31-Aug-14	5860	Diatoma vulgare Bory	0.31	1101.44	30.00	6.00	282.70
AQ05	31-Aug-14	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.13	435.45	93.00	2.00	292.20
AQ05	31-Aug-14	1077	Pseudoanabaena sp.	0.07	435.45	41.00	2.20	155.90
AQ05	31-Aug-14	1102	Gloeothece sp.	0.38	9144.52	4.30	4.30	41.60
AQ05	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.23	3483.63	21.40	2.00	67.20
AQ05	31-Aug-14	1223	Chamaesiphon incrustans Smith	0.37	50948.03	2.40	2.40	7.20
AQ05	31-Aug-14	1239	Homoeothrix varians Komarek & Kalina	0.10	870.91	31.60	2.20	120.10
AQ05	31-Aug-14	5702	Achnanthes minutissima Kutzing	0.07	870.91	18.60	4.00	77.90
AQ05	31-Aug-14	5768	Nitzschia linearis W. Smith	0.20	435.45	49.00	6.00	461.80
AQ05	31-Aug-14	5826	Cymbella gracilis (Rabhorst) Cleve	0.50	435.45	46.00	8.00	1156.10
AQ05	31-Aug-14	5860	Diatoma vulgare Bory	0.24	870.91	29.00	6.00	273.30
AQ05	31-Aug-14	5917	Hannaea arcus Patrick	0.44	870.91	53.00	6.00	499.50
AQ10	31-Aug-14	1122	Phormidium autumnale Agardh	33.85	8869.49	135.00	6.00	3817.00
AQ10	31-Aug-14	1223	Chamaesiphon incrustans Smith	2.38	59622.71	7.00	3.30	39.90
AQ10	31-Aug-14	1239	Homoeothrix varians Komarek & Kalina	0.19	1478.25	34.00	2.20	129.20
AQ10	31-Aug-14	2231	Bulbochaete sp.	1.22	1971.00	12.30	8.00	618.30
AQ10	31-Aug-14	2511	Ulothrix zonata Kutzing	7.43	5913.00	16.00	10.00	1256.60
AQ10	31-Aug-14	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3.13	1478.25	81.00	10.00	2120.60
AQ10	31-Aug-14	5514	Tabellaria flocculsa (Roth) Kutzing	0.66	492.75	26.00	14.00	1334.10
AQ10	31-Aug-14	5523	Synedra ulna (Nitzsch) Ehrenberg	1.07	985.50	260.00	4.00	1089.10
AQ10	31-Aug-14	5702	Achnanthes minutissima Kutzing	1.71	23651.98	17.30	4.00	72.50
AQ10	31-Aug-14	5768	Nitzschia linearis W. Smith	0.71	3449.25	39.00	4.50	206.80
AQ10	31-Aug-14	5860	Diatoma vulgare Bory	3.20	11333.24	30.00	6.00	282.70
AQ10	31-Aug-14	5873	Gomphonema minutum	0.48	985.50	29.00	8.00	485.90
AQ10	31-Aug-14	5880	Didymosphenia geminata Schmidt	84.21	1478.25	136.00	40.00	56967.50
AQ10	31-Aug-14	5917	Hannaea arcus Patrick	2.24	3449.25	69.00	6.00	650.30
AQ11	31-Aug-14	1102	Gloeothece sp.	0.13	13909.62	2.60	2.60	9.20
AQ11	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.34	5884.84	18.30	2.00	57.50
AQ11	31-Aug-14	1223	Chamaesiphon incrustans Smith	2.77	69548.10	7.00	3.30	39.90
AQ11	31-Aug-14	1239	Homoeothrix varians Komarek & Kalina	0.14	1069.97	41.00	2.00	128.80
AQ11	31-Aug-14	2105	Chlamydomonas spp.	0.22	534.99	12.00	8.00	402.10
AQ11	31-Aug-14	2231	Bulbochaete sp.	1.72	2139.94	16.00	8.00	804.20
AQ11	31-Aug-14	5702	Achnanthes minutissima Kutzing	0.57	6419.82	21.30	4.00	89.20

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ11	31-Aug-14	5768	Nitzschia linearis W. Smith	0.23	534.99	45.00	6.00	424.10
AQ11	31-Aug-14	5860	Diatoma vulgare Bory	0.15	534.99	29.00	6.00	273.30
AQ11	31-Aug-14	5865	Cymbella prostrata (Berkeley) Cleve	6.53	534.99	96.00	18.00	12214.50
AQ11	31-Aug-14	5873	Gomphonema minutum	0.45	1069.97	25.00	8.00	418.90
AQ11	31-Aug-14	5916	Fragilaria capucina Grunow	0.33	1604.96	49.00	4.00	205.30
AQ13	31-Aug-14	1084	Gloeocapsa punctata	0.09	2080.50	4.30	4.30	41.60
AQ13	31-Aug-14	1102	Gloeothece sp.	0.64	31207.48	3.40	3.40	20.60
AQ13	31-Aug-14	1122	Phormidium autumnale Agardh	5.38	1040.25	183.00	6.00	5174.20
AQ13	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.39	5721.37	21.60	2.00	67.90
AQ13	31-Aug-14	1223	Chamaesiphon incrustans Smith	2.32	58253.96	7.00	3.30	39.90
AQ13	31-Aug-14	2231	Bulbochaete sp.	2.86	2600.62	14.00	10.00	1099.60
AQ13	31-Aug-14	5507	Cyclotella stelligera Cleve and Grunow	5.01	2080.50	18.30	18.30	2406.70
AQ13	31-Aug-14	5860	Diatoma vulgare Bory	0.49	2080.50	25.20	6.00	237.50
AQ20	31-Aug-14	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.72	3744.90	61.00	2.00	191.60
AQ20	31-Aug-14	1077	Pseudoanabaena sp.	0.05	624.15	24.00	2.00	75.40
AQ20	31-Aug-14	1102	Gloeothece sp.	0.22	45562.92	2.10	2.10	4.80
AQ20	31-Aug-14	1122	Phormidium autumnale Agardh	8.89	4993.20	63.00	6.00	1781.30
AQ20	31-Aug-14	1131	Heteroleibeinia profunda Komarek	0.76	9986.39	24.20	2.00	76.00
AQ20	31-Aug-14	1223	Chamaesiphon incrustans Smith	2.74	68656.46	7.00	3.30	39.90
AQ20	31-Aug-14	2231	Bulbochaete sp.	7.58	23717.68	11.30	6.00	319.50
AQ20	31-Aug-14	5507	Cyclotella stelligera Cleve and Grunow	1.43	624.15	18.00	18.00	2290.20
AQ20	31-Aug-14	5702	Achnanthes minutissima Kutzing	2.20	24965.98	21.00	4.00	88.00
AQ20	31-Aug-14	5768	Nitzschia linearis W. Smith	1.01	2496.60	43.00	6.00	405.30
AQ20	31-Aug-14	5836	Encyonema silesiacum (Bleisch) D.G. Mann	0.74	624.15	30.00	10.00	1178.10
AQ20	31-Aug-14	5860	Diatoma vulgare Bory	0.50	1872.45	28.60	6.00	269.50
AQ20	31-Aug-14	5873	Gomphonema minutum	2.48	5617.35	26.30	8.00	440.70
AQ20	31-Aug-14	5986	Meridion circulare Agardh	0.89	624.15	38.00	12.00	1432.60
AQ30	31-Aug-14	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	1.65	4012.39	131.00	2.00	411.50
AQ30	31-Aug-14	1102	Gloeothece sp.	0.46	72223.02	2.30	2.30	6.40
AQ30	31-Aug-14	1122	Phormidium autumnale Agardh	75.63	13374.63	200.00	6.00	5654.90
AQ30	31-Aug-14	1131	Heteroleibeinia profunda Komarek	14.98	220681.46	21.60	2.00	67.90
AQ30	31-Aug-14	1223	Chamaesiphon incrustans Smith	10.20	259467.90	6.90	3.30	39.30
AQ30	31-Aug-14	1239	Homoeothrix varians Komarek & Kalina	1.83	16049.56	33.00	2.10	114.30
AQ30	31-Aug-14	2231	Bulbochaete sp.	18.29	22736.88	16.00	8.00	804.20
AQ30	31-Aug-14	5860	Diatoma vulgare Bory	1.07	4012.39	28.20	6.00	265.80

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ30	31-Aug-14	5887	Navicula pupula Kutzing	0.40	2674.93	16.00	6.00	150.80
AQ30	31-Aug-14	5986	Meridion circulare Agardh	10.08	6687.32	40.00	12.00	1508.00
AQREF1	19-Aug-14	1131	Heteroleibeinia profunda Komarek	3.76	74767.92	16.00	2.00	50.30
AQREF1	19-Aug-14	1220	Rivularia dura Roth	35.63	8972.15	79.00	8.00	3971.00
AQREF1	19-Aug-14	1223	Chamaesiphon incrustans Smith	0.16	5981.43	4.90	3.20	26.30
AQREF1	19-Aug-14	1239	Homoeothrix varians Komarek & Kalina	0.82	5981.43	36.00	2.20	136.80
AQREF1	19-Aug-14	2231	Bulbochaete sp.	23.96	17944.30	17.00	10.00	1335.20
AQREF1	19-Aug-14	5311	Cymbella minuta Kutzing	7.22	17944.30	16.00	8.00	402.10
AQREF1	19-Aug-14	5702	Achnanthes minutissima Kutzing	11.17	154021.92	17.30	4.00	72.50
AQREF1	19-Aug-14	5860	Diatoma vulgare Bory	20.84	79254.00	27.90	6.00	263.00
AQREF1	19-Aug-14	5870	Navicula radiosa Kutzing	3.55	1495.36	63.00	12.00	2375.00
AQREF1	19-Aug-14	5873	Gomphonema minutum	15.58	31402.53	29.60	8.00	496.00
AQREF1	19-Aug-14	5875	Cocconies disculus Schum.	1.55	1495.36	25.00	12.60	1039.10
AQREF1	19-Aug-14	5880	Didymosphenia geminata Schmidt	80.18	1495.36	128.00	40.00	53616.50
AQREF1	19-Aug-14	5917	Hannaea arcus Patrick	38.14	49346.83	82.00	6.00	772.80
AQREF1	19-Aug-14	8002	Audouinella hermannii	3.04	8972.15	18.00	6.00	339.30

Note: ***1st number in species code = group 1=cyanobacteria 2=chlorophyte 5=diatoms 8=Red algae***
R specifies a replicate count for QA/QC

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ00	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.19	985.50	56.00	2.10	194.00
AQ00	1-Aug-15	1084	Gloeocapsa punctata	0.68	20202.74	4.00	4.00	33.50
AQ00	1-Aug-15	1102	Gloeothece sp.	0.57	62086.46	2.60	2.60	9.20
AQ00	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.20	3449.25	18.60	2.00	58.40
AQ00	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.11	985.50	30.00	2.20	114.00
AQ00	1-Aug-15	2231	Bulbochaete sp.	0.46	1478.25	11.00	6.00	311.00
AQ00	1-Aug-15	5509	Cyclotella ocellata Pant.	0.13	492.75	8.80	8.80	267.60
AQ00	1-Aug-15	5514	Tabellaria flocculsa (Roth) Kutzing	0.58	492.75	23.00	14.00	1180.20
AQ00	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.40	4927.50	19.30	4.00	80.80
AQ00	1-Aug-15	5768	Nitzschia linearis W. Smith	0.09	492.75	39.00	4.30	188.80
AQ00	1-Aug-15	5826	Cymbella gracilis (Rabhorst) Cleve	0.79	492.75	41.00	10.00	1610.10
AQ00	1-Aug-15	5860	Diatoma vulgare Bory	0.46	1971.00	25.00	6.00	235.60
AQ00	1-Aug-15	5873	Gomphonema minutum	0.43	985.50	26.00	8.00	435.60
AQ00R	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.10	492.75	56.00	2.10	194.00
AQ00R	1-Aug-15	1084	Gloeocapsa punctata	0.56	16753.49	4.00	4.00	33.50
AQ00R	1-Aug-15	1102	Gloeothece sp.	0.54	58637.21	2.60	2.60	9.20
AQ00R	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.12	1971.00	18.60	2.00	58.40
AQ00R	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.11	985.50	30.00	2.20	114.00
AQ00R	1-Aug-15	2231	Bulbochaete sp.	0.46	1478.25	11.00	6.00	311.00
AQ00R	1-Aug-15	5514	Tabellaria flocculsa (Roth) Kutzing	1.74	1478.25	23.00	14.00	1180.20
AQ00R	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.32	3942.00	19.30	4.00	80.80
AQ00R	1-Aug-15	5768	Nitzschia linearis W. Smith	0.19	985.50	39.00	4.30	188.80
AQ00R	1-Aug-15	5826	Cymbella gracilis (Rabhorst) Cleve	0.79	492.75	41.00	10.00	1610.10
AQ00R	1-Aug-15	5860	Diatoma vulgare Bory	0.23	985.50	25.00	6.00	235.60
AQ00R	1-Aug-15	5873	Gomphonema minutum	0.21	492.75	26.00	8.00	435.60
AQ02	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.54	1971.00	79.00	2.10	273.60
AQ02	1-Aug-15	1084	Gloeocapsa punctata	0.17	4927.50	4.00	4.00	33.50
AQ02	1-Aug-15	1102	Gloeothece sp.	0.04	9362.24	2.10	2.10	4.80
AQ02	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.33	4927.50	21.30	2.00	66.90
AQ02	1-Aug-15	1223	Chamaesiphon incrustans Smith	1.68	52231.47	6.40	3.10	32.20
AQ02	1-Aug-15	2231	Bulbochaete sp.	0.08	2956.50	1.00	6.00	28.30
AQ02	1-Aug-15	5551	Cyclotella michiganiana Skvortzow	0.02	492.75	4.90	4.90	46.20
AQ02	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.74	8869.49	20.00	4.00	83.80
AQ02	1-Aug-15	5836	Encyonema silesiacum (Bleisch) D.G. Mann	0.58	492.75	30.00	10.00	1178.10

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ02	1-Aug-15	5860	Diatoma vulgare Bory	0.45	1971.00	24.30	6.00	229.00
AQ02	1-Aug-15	5873	Gomphonema minutum	0.96	1971.00	29.00	8.00	485.90
AQ02	1-Aug-15	5917	Hannaea arcus Patrick	0.27	492.75	59.00	6.00	556.10
AQ04	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	1.46	6553.57	71.00	2.00	223.10
AQ04	1-Aug-15	1102	Gloeothece sp.	0.05	11234.69	2.10	2.10	4.80
AQ04	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.31	5617.35	17.60	2.00	55.30
AQ04	1-Aug-15	1223	Chamaesiphon incrustans Smith	2.05	63663.26	6.00	3.20	32.20
AQ04	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.30	2340.56	34.00	2.20	129.20
AQ04	1-Aug-15	2231	Bulbochaete sp.	4.24	7021.68	12.00	8.00	603.20
AQ04	1-Aug-15	5513	Tabellaria fenestrata (Lyngbye) Kutzing	0.67	468.11	86.00	8.00	1440.90
AQ04	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.07	936.22	18.00	4.00	75.40
AQ04	1-Aug-15	5768	Nitzschia linearis W. Smith	0.18	936.22	56.00	3.60	190.00
AQ04	1-Aug-15	5854	Pinnularia borealis Ehrenberg	0.13	468.11	30.00	6.00	282.70
AQ04	1-Aug-15	5860	Diatoma vulgare Bory	0.11	468.11	25.00	6.00	235.60
AQ04	1-Aug-15	5873	Gomphonema minutum	0.63	1404.34	26.60	8.00	445.70
AQ04	1-Aug-15	5884	Gomphonema angustum Agardh	1.00	936.22	41.00	10.00	1073.40
AQ04	1-Aug-15	5917	Hannaea arcus Patrick	0.23	468.11	53.00	6.00	499.50
AQ04.5	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.24	1337.46	56.00	2.00	175.90
AQ04.5	1-Aug-15	1084	Gloeocapsa punctata	0.09	2674.93	4.00	4.00	33.50
AQ04.5	1-Aug-15	1102	Gloeothece sp.	0.24	49486.15	2.10	2.10	4.80
AQ04.5	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.76	9362.24	26.00	2.00	81.70
AQ04.5	1-Aug-15	1223	Chamaesiphon incrustans Smith	0.86	38340.62	6.30	2.60	22.30
AQ04.5	1-Aug-15	5306	Navicula minima Grunow	0.02	445.82	11.00	4.30	53.20
AQ04.5	1-Aug-15	5311	Cymbella minuta Kutzing	0.18	445.82	16.00	8.10	412.20
AQ04.5	1-Aug-15	5513	Tabellaria fenestrata (Lyngbye) Kutzing	0.34	445.82	81.00	6.00	763.40
AQ04.5	1-Aug-15	5551	Cyclotella michiganiana Skvortzow	0.06	1337.46	4.80	4.80	43.40
AQ04.5	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.07	891.64	18.30	4.00	76.70
AQ04.5	1-Aug-15	5834	Cymbella microcephala Grunow	0.59	891.64	26.30	8.00	661.00
AQ04.5	1-Aug-15	5836	Encyonema silesiacum (Bleisch) D.G. Mann	1.05	891.64	30.00	10.00	1178.10
AQ04.5	1-Aug-15	5860	Diatoma vulgare Bory	0.11	445.82	27.00	6.00	254.50
AQ10	15-Sep-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.33	985.50	106.00	2.00	333.00
AQ10	15-Sep-15	1084	Gloeocapsa punctata	0.28	11333.24	3.60	3.60	24.40
AQ10	15-Sep-15	1102	Gloeothece sp.	0.03	7391.25	2.00	2.00	4.20
AQ10	15-Sep-15	1122	Phormidium autumnale Agardh	7.22	1971.00	90.00	7.20	3664.40

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ10	15-Sep-15	1131	Heteroleibeinia profunda Komarek	0.38	7883.99	15.30	2.00	48.10
AQ10	15-Sep-15	1223	Chamaesiphon incrustans Smith	0.93	50753.22	5.60	2.50	18.30
AQ10	15-Sep-15	1239	Homoeothrix varians Komarek & Kalina	0.23	1971.00	31.00	2.20	117.80
AQ10	15-Sep-15	5306	Navicula minima Grunow	0.06	985.50	12.00	4.50	63.60
AQ10	15-Sep-15	5551	Cyclotella michiganiana Skvortzow	0.13	2956.50	4.80	4.80	43.40
AQ10	15-Sep-15	5702	Achnanthes minutissima Kutzing	0.07	985.50	17.80	4.00	74.60
AQ10	15-Sep-15	5768	Nitzschia linearis W. Smith	0.07	492.75	36.00	4.00	150.80
AQ10	15-Sep-15	5836	Encyonema silesiacum (Bleisch) D.G. Mann	0.58	492.75	30.00	10.00	1178.10
AQ11	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.43	1920.46	71.00	2.00	223.10
AQ11	1-Aug-15	1084	Gloeocapsa punctata	0.06	1920.46	4.00	4.00	33.50
AQ11	1-Aug-15	1102	Gloeothece sp.	0.19	38889.32	2.10	2.10	4.80
AQ11	1-Aug-15	1122	Phormidium autumnale Agardh	1.09	480.12	80.00	6.00	2261.90
AQ11	1-Aug-15	1223	Chamaesiphon incrustans Smith	1.39	47531.39	6.20	3.00	29.20
AQ11	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.36	2880.69	33.00	2.20	125.40
AQ11	1-Aug-15	2231	Bulbochaete sp.	2.03	3360.81	12.00	8.00	603.20
AQ11	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.20	2880.69	16.30	4.00	68.30
AQ11	1-Aug-15	5768	Nitzschia linearis W. Smith	0.36	2400.58	36.00	4.00	150.80
AQ11	1-Aug-15	5836	Encyonema silesiacum (Bleisch) D.G. Mann	1.58	1440.35	28.00	10.00	1099.60
AQ11	1-Aug-15	5860	Diatoma vulgare Bory	0.11	480.12	25.10	6.00	236.60
AQ13	1-Aug-15	1014	Chroococcus limneticus Lemmermann	0.12	4832.13	3.60	3.60	24.40
AQ13	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	2.37	10872.28	63.00	2.10	218.20
AQ13	1-Aug-15	1077	Pseudoanabaena sp.	0.12	6040.16	2.90	2.90	19.20
AQ13	1-Aug-15	1084	Gloeocapsa punctata	0.22	6644.17	4.00	4.00	33.50
AQ13	1-Aug-15	1102	Gloeothece sp.	1.76	102078.66	3.20	3.20	17.20
AQ13	1-Aug-15	1122	Phormidium autumnale Agardh	2.15	1208.03	63.00	6.00	1781.30
AQ13	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.12	2416.06	16.40	2.00	51.50
AQ13	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.39	3624.09	28.60	2.20	108.70
AQ13	1-Aug-15	5306	Navicula minima Grunow	0.15	604.02	15.20	8.00	254.70
AQ13	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.10	1208.03	19.00	4.00	79.60
AQ13	1-Aug-15	5753	Navicula sp.	0.60	604.02	38.00	10.00	994.80
AQ13	1-Aug-15	5860	Diatoma vulgare Bory	0.47	1812.05	27.70	6.00	261.10
AQ20	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	3.52	10872.28	103.00	2.00	323.60
AQ20	1-Aug-15	1102	Gloeothece sp.	0.28	57985.51	2.10	2.10	4.80
AQ20	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.27	5436.14	16.00	2.00	50.30

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQ20	1-Aug-15	1223	Chamaesiphon incrustans Smith	2.45	91206.38	6.10	2.90	26.90
AQ20	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	0.47	3020.08	41.00	2.20	155.90
AQ20	1-Aug-15	2231	Bulbochaete sp.	11.56	20536.54	11.20	8.00	563.00
AQ20	1-Aug-15	5306	Navicula minima Grunow	0.15	1812.05	13.00	5.00	85.10
AQ20	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.67	8456.22	19.00	4.00	79.60
AQ20	1-Aug-15	5836	Encyonema silesiacum (Bleisch) D.G. Mann	0.71	604.02	30.00	10.00	1178.10
AQ20	1-Aug-15	5860	Diatoma vulgare Bory	0.43	1812.05	25.00	6.00	235.60
AQ20	1-Aug-15	5873	Gomphonema minutum	0.26	604.02	26.00	8.00	435.60
AQ30	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.43	1872.45	67.00	2.10	232.10
AQ30	1-Aug-15	1084	Gloeocapsa punctata	1.44	43066.32	4.00	4.00	33.50
AQ30	1-Aug-15	1102	Gloeothece sp.	0.85	152604.58	2.20	2.20	5.60
AQ30	1-Aug-15	1122	Phormidium autumnale Agardh	1.83	936.22	69.00	6.00	1950.90
AQ30	1-Aug-15	1131	Heteroleibeinia profunda Komarek	1.27	18724.49	21.60	2.00	67.90
AQ30	1-Aug-15	1223	Chamaesiphon incrustans Smith	4.25	132007.64	6.40	3.10	32.20
AQ30	1-Aug-15	5702	Achnanthes minutissima Kutzing	1.49	18724.49	19.00	4.00	79.60
AQ30	1-Aug-15	5860	Diatoma vulgare Bory	0.88	3744.90	24.90	6.00	234.70
AQ30	1-Aug-15	5873	Gomphonema minutum	0.41	936.22	26.20	8.00	439.00
AQ30	1-Aug-15	5986	Meridion circulare Agardh	1.73	936.22	36.00	14.00	1847.30
AQREF1	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.46	1755.42	84.00	2.00	263.90
AQREF1	1-Aug-15	1077	Pseudoanabaena sp.	0.19	8777.10	3.00	3.00	21.20
AQREF1	1-Aug-15	1223	Chamaesiphon incrustans Smith	2.32	70801.97	6.50	3.10	32.70
AQREF1	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	1.83	14628.51	33.00	2.20	125.40
AQREF1	1-Aug-15	2231	Bulbochaete sp.	1.80	2340.56	15.30	8.00	769.10
AQREF1	1-Aug-15	5306	Navicula minima Grunow	0.14	1170.28	12.40	6.00	116.90
AQREF1	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.94	12287.95	18.30	4.00	76.70
AQREF1	1-Aug-15	5768	Nitzschia linearis W. Smith	0.18	1170.28	36.00	4.00	150.80
AQREF1	1-Aug-15	5860	Diatoma vulgare Bory	1.24	4681.12	28.00	6.00	263.90
AQREF1	1-Aug-15	5870	Navicula radiosa Kutzing	0.78	585.14	51.00	10.00	1335.20
AQREF1	1-Aug-15	5873	Gomphonema minutum	0.27	585.14	27.30	8.00	457.40
AQREF1	1-Aug-15	5908	Diatoma tenue Agardh	0.09	585.14	35.00	4.00	146.60
AQREF2	1-Aug-15	1057	Leptolyngbya lemnetica (Anaga.) Anagnostidis and Komarek	0.42	1755.42	76.00	2.00	238.80
AQREF2	1-Aug-15	1077	Pseudoanabaena sp.	0.14	6436.54	3.00	3.00	21.20
AQREF2	1-Aug-15	1084	Gloeocapsa punctata	0.12	3510.84	4.00	4.00	33.50
AQREF2	1-Aug-15	1131	Heteroleibeinia profunda Komarek	0.21	3510.84	19.00	2.00	59.70

Appendix C2. Periphyton taxonomy data, Coffee Gold Project, 2014-2015

Site	Date	Species code	Species name	biomass µg/cm^2	density cells/cm^2	length µ	width µ	cell volume µ^3
AQREF2	1-Aug-15	1223	Chamaesiphon incrustans Smith	1.40	64950.57	6.10	2.60	21.60
AQREF2	1-Aug-15	1239	Homoeothrix varians Komarek & Kalina	1.39	11117.66	33.00	2.20	125.40
AQREF2	1-Aug-15	2231	Bulbochaete sp.	3.97	5266.26	15.00	8.00	754.00
AQREF2	1-Aug-15	5306	Navicula minima Grunow	0.05	585.14	12.20	5.00	79.80
AQREF2	1-Aug-15	5702	Achnanthes minutissima Kutzing	0.67	8777.10	18.30	4.00	76.70
AQREF2	1-Aug-15	5768	Nitzschia linearis W. Smith	0.18	1170.28	36.00	4.00	150.80
AQREF2	1-Aug-15	5860	Diatoma vulgare Bory	0.93	3510.84	28.00	6.00	263.90
AQREF2	1-Aug-15	5873	Gomphonema minutum	0.51	1170.28	26.00	8.00	435.60
AQREF2	1-Aug-15	5910	Navicula exigua (Greg.) Muller	0.31	585.14	32.00	8.00	536.20

Note: ***1st number in species code = group 1=cyanobacteria 2=chlorophyte 5=diatoms 8=Red algae***
R specifies a replicate count for QA/QC

Appendix D

Benthic Invertebrates

- **D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2014-2015**
- **D2. CABIN results, Coffee Gold Project, 2014-2015**

Appendix D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2014

Site:	AQ00	AQ20	AQ30	AQ04	AQ02	AQ05	AQ10	AQ11	AQ13
Phylum: Arthropoda	0	0	0	0	0	0	0	0	0
Subphylum: Hexapoda	0	0	0	0	0	0	0	0	0
| Class: Insecta	0	0	0	0	0	0	0	0	0
| Order: Ephemeroptera	0	0	0	0	0	0	0	0	0
| Family: Ameletidae	0	0	0	0	0	0	0	0	0
Ameletus	0	0	0	0	0	2	0	0	0
| Family: Baetidae	1	14	0	0	6	0	0	13	0
Acentrella parvula	0	0	0	0	3	0	0	3	0
Acentrella sp.	2	0	0	20	8	0	8	15	0
Acentrella turbida	11	0	0	0	5	0	0	0	0
Baetis	0	5	37	53	0	5	18	58	5
Baetis bicaudatus	0	3	34	45	0	35	18	30	163
| Family: Ephemerellidae	0	0	0	0	47	0	0	0	0
Drunella doddsii	0	0	0	0	4	0	0	0	0
Drunella sp.	0	0	0	0	29	0	0	0	0
Ephemerella	0	0	0	1	49	0	0	0	0
Ephemerella aurivillii	1	0	0	0	0	0	0	0	0
Ephemerella velmae	40	0	0	0	0	0	0	0	0
| Family: Heptageniidae	45	9	5	16	33	251	35	28	0
Cinygmula sp.	16	0	12	14	12	8	50	63	0
Epeorus albertae group	0	0	0	2	0	0	0	0	0
Epeorus sp.	1	2	0	26	0	0	0	0	0
Rhithrogena	0	0	0	0	0	2	0	0	0
	0	0	0	0	0	0	0	0	0
| Order: Plecoptera	0	1	5	0	10	0	0	3	11
| Family: Capniidae	5	0	7	7	1	11	13	23	21
Capnia sp.	0	0	22	0	0	15	0	8	5
| Family: Chloroperlidae	4	0	0	0	11	0	8	3	11
Suwallia	2	1	0	1	19	10	20	0	0
| Family: Nemouridae	6	8	0	0	1	0	0	0	0
Nemoura	0	85	361	31	2	278	33	133	611
Zapada columbiana	0	0	0	0	1	0	0	0	0
| Family: Perlodidae	8	0	0	14	36	0	18	5	0
Diura sp.	0	0	0	0	0	2	0	8	0
Isogenoides sp.	0	0	0	2	0	0	0	0	0
Isoperla sp.	0	0	0	0	0	0	3	0	0
Skwala	0	0	0	0	2	0	0	3	0
	0	0	0	0	0	0	0	0	0
| Order: Trichoptera	0	0	0	0	0	0	0	0	0
| Family: Apataniidae	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	1	0	0	0	0
| Family: Brachycentridae	0	0	0	0	0	0	0	0	0
Brachycentrus sp.	0	0	0	0	1	0	0	0	0
| Family: Glossosomatidae	0	0	0	0	0	0	0	0	0
Glossosoma	0	0	0	0	5	0	0	0	0
| Family: Hydropsychidae	8	0	0	0	2	0	0	0	0
| Family: Limnephilidae	0	1	0	3	0	6	5	0	0
Ecclisomyia sp.	2	0	0	32	15	7	30	0	0
	0	0	0	0	0	0	0	0	0
| Order: Coleoptera	0	0	0	0	0	0	0	0	0
| Family: Dytiscidae	0	0	0	0	0	0	0	0	0
Agabus sp.	0	0	1	0	0	0	0	0	0
| Family: Staphylinidae	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0

Appendix D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2014

Site:	AQ00	AQ20	AQ30	AQ04	AQ02	AQ05	AQ10	AQ11	AQ13
| Order: Diptera	0	0	0	134	0	1	0	0	0
| Family: Ceratopogonidae	0	0	0	0	0	0	0	0	0
Culicoides	0	0	0	0	1	0	0	0	0
| Family: Chironomidae	13	4	7	63	49	0	138	30	0
| Subfamily: Chironominae	0	0	0	0	0	0	0	0	0
| Tribe: Tanytarsini	0	0	0	0	0	0	0	0	0
Stempellinella sp.	2	0	0	36	0	0	0	0	0
Tanytarsus	0	0	0	0	7	2	3	3	0
| Subfamily: Diamesinae	0	0	0	0	0	0	0	0	0
| Tribe: Diamesini	0	0	0	0	0	0	0	0	0
Diamesa	0	74	55	17	3	30	20	30	742
Pagastia	0	0	0	0	4	0	8	0	0
Potthastia gaedii group	0	1	0	0	0	0	0	0	0
Pseudodiamesa sp.	0	0	0	0	0	0	0	0	0
| Subfamily: Orthocladiinae	0	0	0	0	0	0	0	0	0
Brillia sp.	0	0	0	0	1	0	0	0	0
Eukiefferiella	21	27	58	95	48	17	243	295	0
Hydrobaenus	0	0	8	0	0	0	0	0	0
Metriocnemus sp.	0	0	11	1	0	3	5	0	5
Orthocladius (Euorthocladius)	2	0	0	0	0	0	0	0	0
Orthocladius complex	122	4	48	10	15	1	8	0	5
Orthocladius lignicola	0	0	0	1	0	0	0	0	0
Paraphaenocladius sp.	0	0	1	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	2	0	0	0	0
Tvetenia	16	1	0	0	40	0	280	30	0
| Tribe: Corynoneurini	0	0	0	0	0	0	0	0	0
Corynoneura	1	0	0	0	0	0	0	0	0
| Family: Deuterophlebiidae	0	0	0	0	0	0	0	0	0
Deuterophlebia sp.	0	0	0	12	0	0	0	0	0
| Family: Empididae	0	0	0	0	45	0	3	20	0
Chelifera/ Metachela	0	0	0	0	1	0	0	0	0
Hemerodromia sp.	0	0	0	0	2	0	0	0	0
| Family: Psychodidae	0	0	0	0	0	0	0	0	0
Pericoma/Telmatoscopus sp.	0	0	0	0	0	0	0	0	0
| Family: Simuliidae	0	2	0	0	1	0	3	3	0
Gymnopais sp.	0	1	0	0	0	1	0	5	26
Prosimulium	0	0	3	5	0	0	0	0	0
Simulium	0	5	0	0	1	0	3	33	0
| Family: Tipulidae	0	0	0	0	0	0	0	0	0
Dicranota	1	0	2	7	1	7	13	3	0
Tipula	0	0	1	0	0	0	0	3	0
	0	0	0	0	0	0	0	0	0
| Order: Hemiptera	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Subphylum: Crustacea	0	0	0	0	0	0	0	0	0
| Class: Malacostraca	0	0	0	0	0	0	0	0	0
| Order: Amphipoda	0	0	0	0	0	0	0	0	0
| Family: Crangonyctidae	0	0	0	0	0	0	0	0	0
Crangonyx	0	0	0	7	0	0	0	0	0
| Family: Hyalellidae	0	0	0	0	0	0	0	0	0
Hyalella	0	0	0	0	0	0	0	3	0
	0	0	0	0	0	0	0	0	0
Subphylum: Chelicerata	0	0	0	0	0	0	0	0	0
| Class: Arachnida	0	0	0	0	0	14	0	0	0

Appendix D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2014

Site:	AQ00	AQ20	AQ30	AQ04	AQ02	AQ05	AQ10	AQ11	AQ13
| Order: Trombidiformes	0	0	1	0	0	0	0	0	0
| Family: Hydryphantidae	0	0	0	0	0	0	0	0	0
Albertathyas	0	1	0	0	0	1	0	0	0
| Family: Sperchontidae	0	0	0	0	0	0	0	0	0
Sperchon	3	2	3	2	61	10	0	5	0
	0	0	0	0	0	0	0	0	0
| Order: Sarcoptiformes	0	0	0	0	0	0	0	0	0
| Family: Hydrozetidae	0	2	5	1	0	1	0	0	0
	0	0	0	0	0	0	0	0	0
Phylum: Mollusca	0	0	0	0	0	0	0	0	0
| Class: Gastropoda	0	0	0	0	0	0	0	0	0
| Order: Basommatophora	0	0	0	0	0	0	0	0	0
| Family: Lymnaeidae	0	0	0	0	0	0	0	0	0
Stagnicola	0	0	0	0	0	0	0	0	11
	0	0	0	0	0	0	0	0	0
| Order: Heterostropha	0	0	0	0	0	0	0	0	0
| Family: Valvatidae	0	0	0	0	0	0	0	0	0
Valvata	0	0	1	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Phylum: Annelida	0	0	0	0	0	0	0	0	0
Subphylum: Clitellata	0	0	0	0	0	0	0	0	0
| Class: Oligochaeta	1	0	0	0	0	0	3	0	0
| Order: Lumbriculida	0	0	0	0	0	0	0	0	0
| Family: Lumbriculidae	0	0	0	0	0	30	0	0	0
	0	0	0	0	0	0	0	0	0
| Order: Tubificida	0	0	0	0	0	0	0	0	0
| Family: Enchytraeidae	12	7	4	0	0	0	0	5	11
Mesenchytraeus sp.	0	0	0	4	0	0	0	0	0
Totals:	**346**	**260**	**692**	**662**	**585**	**750**	**989**	**864**	**1627**

Taxa present but not included:

Terrestrials	0	0	17	0	0	8	0	0	11
	0	0	0	0	0	0	0	0	0
Phylum: Arthropoda	0	0	0	0	0	0	0	0	0
Subphylum: Hexapoda	0	0	0	0	0	0	0	0	0
| Class: Insecta	0	0	0	0	0	0	0	0	0
| Order: Coleoptera	0	0	0	0	0	0	0	0	0
| Family: Curculionidae	0	0	0	0	0	0	0	0	0
| Subfamily: Scolytinae	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
| Class: Entognatha	0	0	0	0	0	0	0	0	0
| Order: Collembola	1	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Phylum: Nemata	0	0	3	2	0	10	0	0	16
Phylum: Platyhelminthes	0	0	0	0	0	0	0	0	0
| Class: Turbellaria	0	0	0	0	0	3	0	0	5
Totals:	**1**	**0**	**20**	**2**	**0**	**21**	**0**	**0**	**32**

Appendix D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2015

Site:	AQ00	AQ20	AQ30	AQ04	AQ02	AQ04.5	AQ10	AQ11	AQ13	AQREF1	AQREF2
Phylum: Arthropoda	0	0	0	0	0	0	0	0	0	0	0
Subphylum: Hexapoda	0	0	0	0	0	0	0	0	0	0	0
| Class: Insecta	0	0	0	0	0	0	0	0	0	0	0
| Order: Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
| Family: Baetidae	48	30	391	169	562	9	400	207	0	9	580
Acentrella sp.	12	0	0	0	0	0	80	0	0	1	50
Baetis	81	26	68	189	200	15	180	27	2	6	150
Baetis bicaudatus	19	0	0	69	8	24	180	0	1	1	30
| Family: Ephemerellidae	37	0	0	0	31	0	0	0	0	1	0
Ephemerella	2	0	0	0	8	0	0	0	0	0	0
| Family: Heptageniidae	58	2	23	8	108	4	200	80	0	67	230
Cinygmula sp.	23	0	0	6	31	1	80	0	0	27	70
Epeorus	1	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
| Order: Plecoptera	0	0	0	0	0	0	0	0	1	0	0
| Family: Capniidae	2	7	36	6	0	6	20	13	6	2	10
Capnia sp.	0	0	0	0	0	2	0	0	0	0	0
| Family: Chloroperlidae	6	0	0	0	23	0	0	0	0	5	0
Haploperla sp.	2	0	0	0	0	0	100	0	0	15	0
Suwallia	15	0	0	0	23	0	20	0	0	3	0
| Family: Nemouridae	0	198	295	14	8	25	20	100	18	0	450
Ostrocerca sp.	0	137	282	8	0	34	160	27	18	0	310
Zapada	0	0	0	0	0	0	0	7	0	0	0
| Family: Perlodidae	2	0	0	6	23	0	0	13	0	1	0
	0	0	0	0	0	0	0	0	0	0	0
| Order: Trichoptera	0	0	0	0	0	0	0	0	0	0	0
| Order: Coleoptera	0	0	0	0	0	0	0	0	0	0	0
| Family: Curculionidae	1	0	0	0	0	0	0	0	0	0	0
| Family: Staphylinidae	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
| Order: Diptera	0	2	0	6	0	1	0	0	2	0	10
| Family: Chironomidae	12	20	5	217	31	10	60	0	3	6	0
| Subfamily: Chironominae	0	0	0	0	0	0	0	0	0	0	0
| Tribe: Chironomini	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	1	1	0
Polypedilum sp.	0	0	5	0	8	0	0	0	0	0	10
| Tribe: Tanytarsini	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	8	3	0	0	0	0	40
| Subfamily: Diamesinae	0	0	0	0	0	0	0	0	0	0	0
| Tribe: Diamesini	0	0	0	0	0	0	0	0	0	0	0
Diamesa	1	22	14	6	0	37	0	0	11	6	40
Pagastia	0	0	0	0	0	0	0	0	0	8	0
Pseudodiamesa sp.	0	0	0	0	0	1	0	0	0	0	0
| Subfamily: Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Eukiefferiella	0	0	0	19	0	0	0	0	8	0	0
Eukiefferiella claripennis group	4	52	214	11	15	11	60	47	31	10	0
Gymnometriocnemus sp.	0	0	0	0	0	0	0	0	1	0	0
Heterotrissocladius sp.	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius marcidus group.	0	2	0	3	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Limnophyes sp.	0	0	0	0	0	3	0	0	4	0	0
Orthocladius	2	7	32	11	0	2	0	7	0	68	20
Orthocladius lignicola	0	2	0	0	0	0	0	0	0	0	0
Parametriocnemus	6	11	55	28	54	0	20	47	0	14	10
Pseudosmittia sp.	0	0	0	0	0	0	0	0	1	0	0
Rheocricotopus	0	0	0	8	0	0	0	0	0	7	0
Rheosmittia sp.	3	0	0	0	8	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia bavarica group	20	24	355	8	154	18	360	100	0	51	30
| Family: Deuterophlebiidae	0	0	0	0	0	0	0	0	0	0	0
Deuterophlebia sp.	4	0	0	0	31	0	0	0	0	0	0
| Family: Empididae	0	2	0	0	0	0	0	0	0	2	0
Clinocera sp.	0	0	0	0	0	0	0	0	0	0	0
Neoplasta sp.	1	0	0	0	8	0	0	0	0	20	0

Appendix D1. Benthic Invertebrate Taxonomy, Coffee Gold Project, 2015

Site:	AQ00	AQ20	AQ30	AQ04	AQ02	AQ04.5	AQ10	AQ11	AQ13	AQREF1	AQREF2
| Family: Muscidae	0	0	0	0	0	0	0	0	0	0	0
Limnophora sp.	0	0	0	0	0	0	0	0	1	0	0
| Family: Simuliidae	0	24	0	33	69	6	260	1327	4	20	430
Helodon sp.	1	7	5	14	100	6	980	20	6	19	50
Prosimulium	0	4	18	6	31	15	0	20	2	12	20
Simulium	12	78	91	31	1177	3	3600	100	5	0	660
| Family: Tipulidae	1	2	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	1	0	0	0	0	0
Tipula	0	2	0	6	0	0	0	0	0	4	0
	0	0	0	0	0	0	0	0	0	0	0
| Order: Hemiptera	0	0	0	0	0	0	0	0	0	0	0
| Order: Lepidoptera	0	0	0	0	0	0	0	0	0	0	0
| Order: Hymenoptera	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Subphylum: Crustacea	0	0	0	0	0	0	0	0	0	0	0
| Class: Malacostraca	0	0	0	0	0	0	0	0	0	0	0
| Order: Amphipoda	0	0	0	0	0	0	0	0	0	3	0
| Family: Gammaridae	0	0	0	0	0	0	0	0	0	0	0
Gammarus	0	2	0	0	0	0	0	0	0	0	0
| Family: Hyalellidae	0	0	0	0	0	0	0	0	0	0	0
Hyalella	0	0	0	0	0	0	0	7	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Subphylum: Chelicerata	0	0	0	0	0	0	0	0	0	0	0
| Class: Arachnida	0	0	0	0	0	0	0	0	0	0	0
| Order: Trombidiformes	0	0	0	0	0	1	0	0	0	0	0
| Family: Feltriidae	0	0	0	0	0	0	0	0	0	0	0
Feltria sp.	0	0	0	0	8	0	0	0	0	0	0
| Family: Sperchontidae	0	0	0	0	0	0	0	0	0	0	0
Sperchon	8	0	0	3	38	1	0	7	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
| Order: Oribatei	0	0	0	0	0	0	0	0	0	0	0
| Family: Oribatidae	0	0	0	0	0	0	0	0	0	0	0
Oribatida	0	2	0	0	0	3	0	0	2	1	10
	0	0	0	0	0	0	0	0	0	0	0
Phylum: Mollusca	0	0	0	0	0	0	0	0	0	0	0
| Class: Gastropoda	0	4	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Phylum: Annelida	0	0	0	0	0	0	0	0	0	0	0
Subphylum: Clitellata	0	0	0	0	0	0	0	0	0	0	0
| Class: Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
| Order: Tubificida	0	0	0	0	0	0	0	0	0	0	0
| Family: Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
Enchytraeus	1	2	0	0	0	4	0	0	3	0	0
| Family: Naididae	0	0	0	0	0	0	0	0	0	0	0
Nais	0	0	0	0	0	0	0	0	4	0	0
	0	0	0	0	0	0	0	0	0	0	0
Phylum: Tardigrada	0	0	0	0	0	1	0	0	0	0	0
Totals:	**385**	**671**	**1889**	**885**	**2765**	**247**	**6780**	**2156**	**135**	**390**	**3210**
Taxa present but not included:											
Terrestrials	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Phylum: Arthropoda	0	0	0	0	0	0	0	0	0	0	0
| Class: Entognatha	0	0	0	0	0	0	0	0	0	0	0
| Order: Collembola	0	0	0	0	0	1	0	7	1	0	0
	0	0	0	0	0	0	0	0	0	0	0
Subphylum: Crustacea	0	0	0	0	0	0	0	0	0	0	0
| Class: Branchiopoda	0	0	0	0	0	0	0	0	0	0	0
| Order: Cladocera	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Phylum: Nemata	0	2	5	3	0	1	20	0	1	1	0
Phylum: Platyhelminthes	0	0	0	0	0	0	0	0	0	0	0
| Class: Turbellaria	0	0	0	0	0	1	0	0	0	0	0
Totals:	**0**	**2**	**5**	**3**	**0**	**3**	**20**	**7**	**2**	**1**	**0**

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ00
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.88524 N, 139.09500 W
Altitude	1427
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	65.3%	30.1%	2.0%	2.7%	0.0%
CABIN Assessment of AQ00 on Aug 29, 2014	Mildly Divergent				

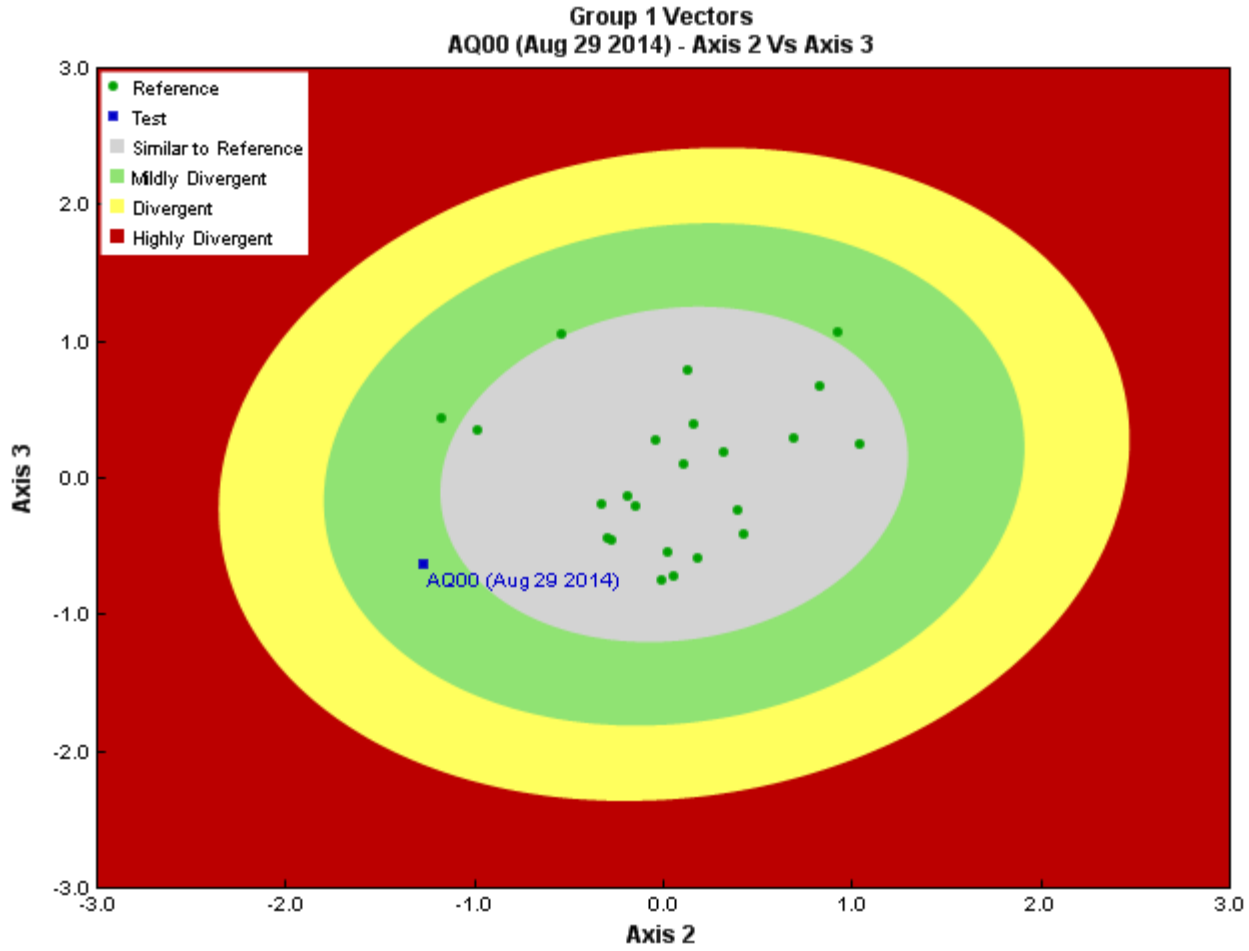


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta			1	1.0
		Haplotaxida	Enchytraeidae	12	12.0
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	3	3.0
	Insecta	Diptera	Chironomidae	177	177.0
			Tipulidae	1	1.0
		Ephemeroptera	Baetidae	14	14.0
			Ephemerellidae	41	41.0
			Heptageniidae	62	62.0
		Plecoptera	Capniidae	5	5.0
			Chloroperlidae	6	6.0
			Nemouridae	6	6.0
			Perlodidae	8	8.0
		Trichoptera	Hydropsychidae	8	8.0
			Limnephilidae	2	2.0
			Total	346	346.0

Site Metrics

Metric Name	AQ00	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.94	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ00
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	1.99
RIVPACS : Observed taxa P>0.50	2.00
RIVPACS : O:E (p > 0.5)	1.00
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ00	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	49.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.66	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.30000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.40000	25.54674 ± 9.71520
Precip06_JUN (mm)	52.90000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.10000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	52.90000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.27000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.47598	0.19525 ± 0.41187
Natl-Bryoids (%)	1.48831	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.84309	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ30
Sampling Date	Jul 27 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.93137 N, 139.23300 W
Altitude	1407
Feature Name	Unnamed
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	88.1%	10.9%	0.3%	0.7%	0.0%
CABIN Assessment of AQ30 on Jul 27, 2015	Highly Divergent				

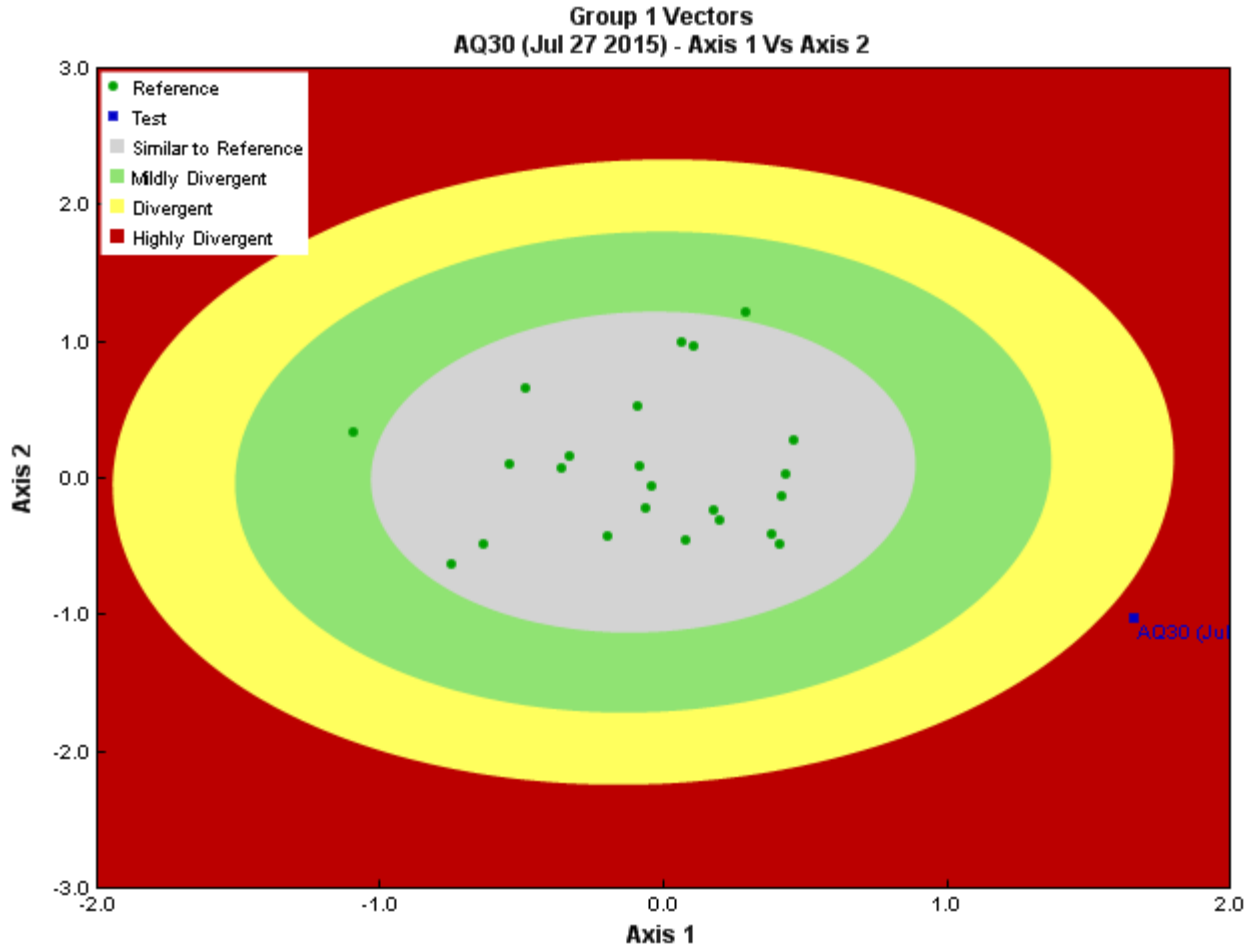


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	22/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Insecta	Diptera	Chironomidae	149	677.0
			Simuliidae	25	113.6
		Ephemeroptera	Baetidae	101	459.1
			Heptageniidae	5	22.7
		Plecoptera	Capniidae	8	36.4
			Nemouridae	127	577.3
			Total	415	1,886.1

Site Metrics

Metric Name	AQ30	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.99	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ30
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.92

RIVPACS : Expected taxa P>0.50	0.92
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.08
RIVPACS : Expected taxa P>0.70	0.92
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.08

D. Habitat Description

Variable	AQ30	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	8.5	36.5 ± 24.3
Velocity-Avg (m/s)	0.24	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.00000	27.73943 ± 9.10561
Precip03_MAR (mm)	10.70000	25.54674 ± 9.71520
Precip06_JUN (mm)	48.20000	49.78117 ± 15.10067
Precip07_JUL (mm)	61.20000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	48.20000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.50000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.05327	0.19525 ± 0.41187
Natl-Bryoids (%)	0.26099	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	2.18745	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQREF2
Sampling Date	Jul 31 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	63.04072 N, 139.62550 W
Altitude	1378
Feature Name	Los Angeles Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	95.3%	3.5%	0.6%	0.6%	0.0%
CABIN Assessment of AQREF2 on Jul 31, 2015	Highly Divergent				

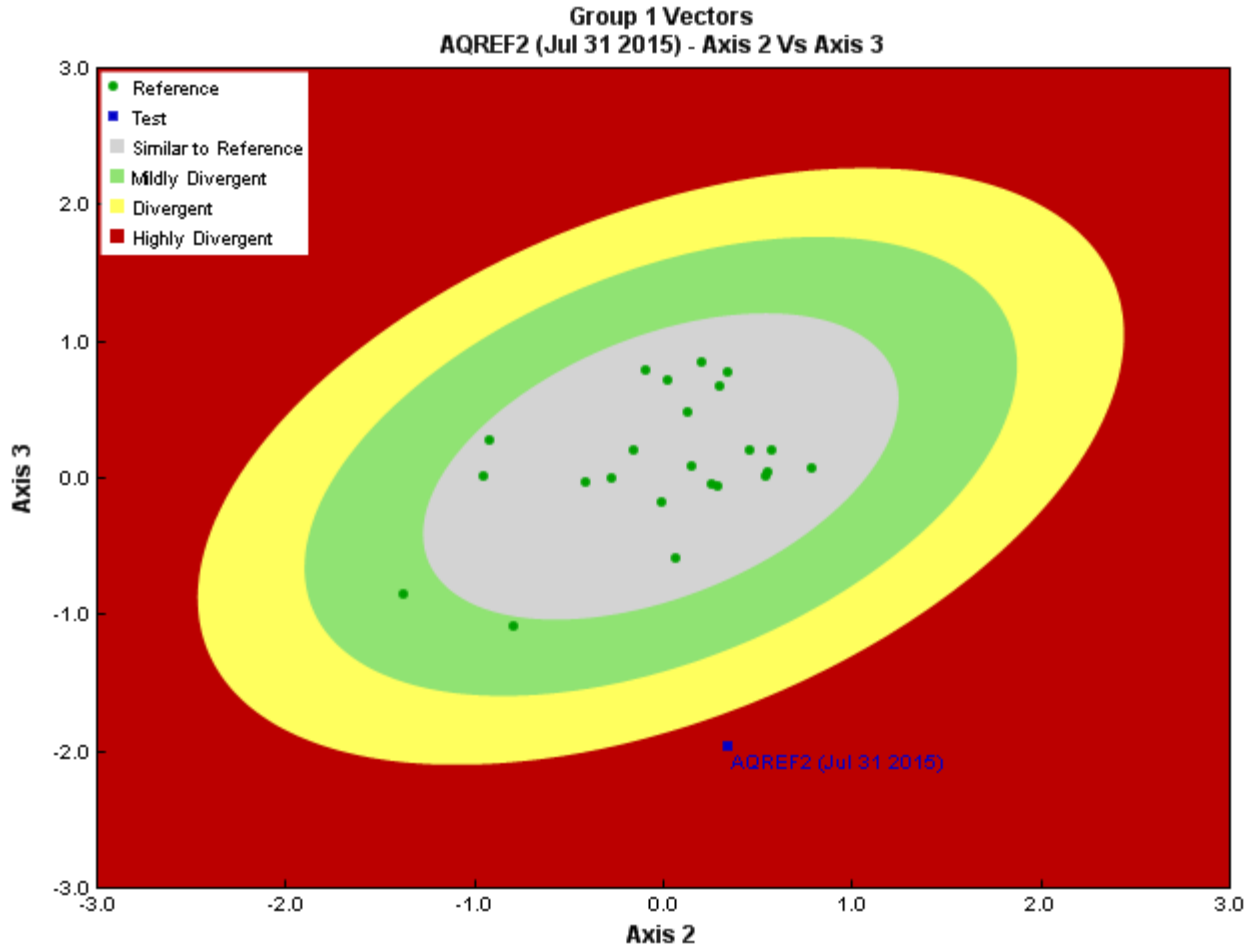


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	10/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Sarcoptiformes		1	10.0
	Insecta	Diptera		1	10.0
			Chironomidae	15	150.0
			Simuliidae	116	1,160.0
		Ephemeroptera	Baetidae	81	810.0
			Heptageniidae	30	300.0
		Plecoptera	Capniidae	1	10.0
			Nemouridae	76	760.0
			Total	321	3,210.0

Site Metrics

Metric Name	AQREF2	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.99	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQREF2
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.92

RIVPACS : Expected taxa P>0.50	0.92
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.09
RIVPACS : Expected taxa P>0.70	0.92
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.09

D. Habitat Description

Variable	AQREF2	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	37.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.93	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	11.90000	27.73943 ± 9.10561
Precip03_MAR (mm)	10.40000	25.54674 ± 9.71520
Precip06_JUN (mm)	47.40000	49.78117 ± 15.10067
Precip07_JUL (mm)	59.20000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	47.40000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	6.00000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.89107	0.19525 ± 0.41187
Natl-Bryoids (%)	0.14992	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	1.86018	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	ICM1
Sampling Date	Aug 19 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.82747 N, 138.51100 W
Altitude	1463
Feature Name	Isaac Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	68.2%	27.3%	1.1%	3.4%	0.0%
CABIN Assessment of ICM1 on Aug 19, 2014	Mildly Divergent				

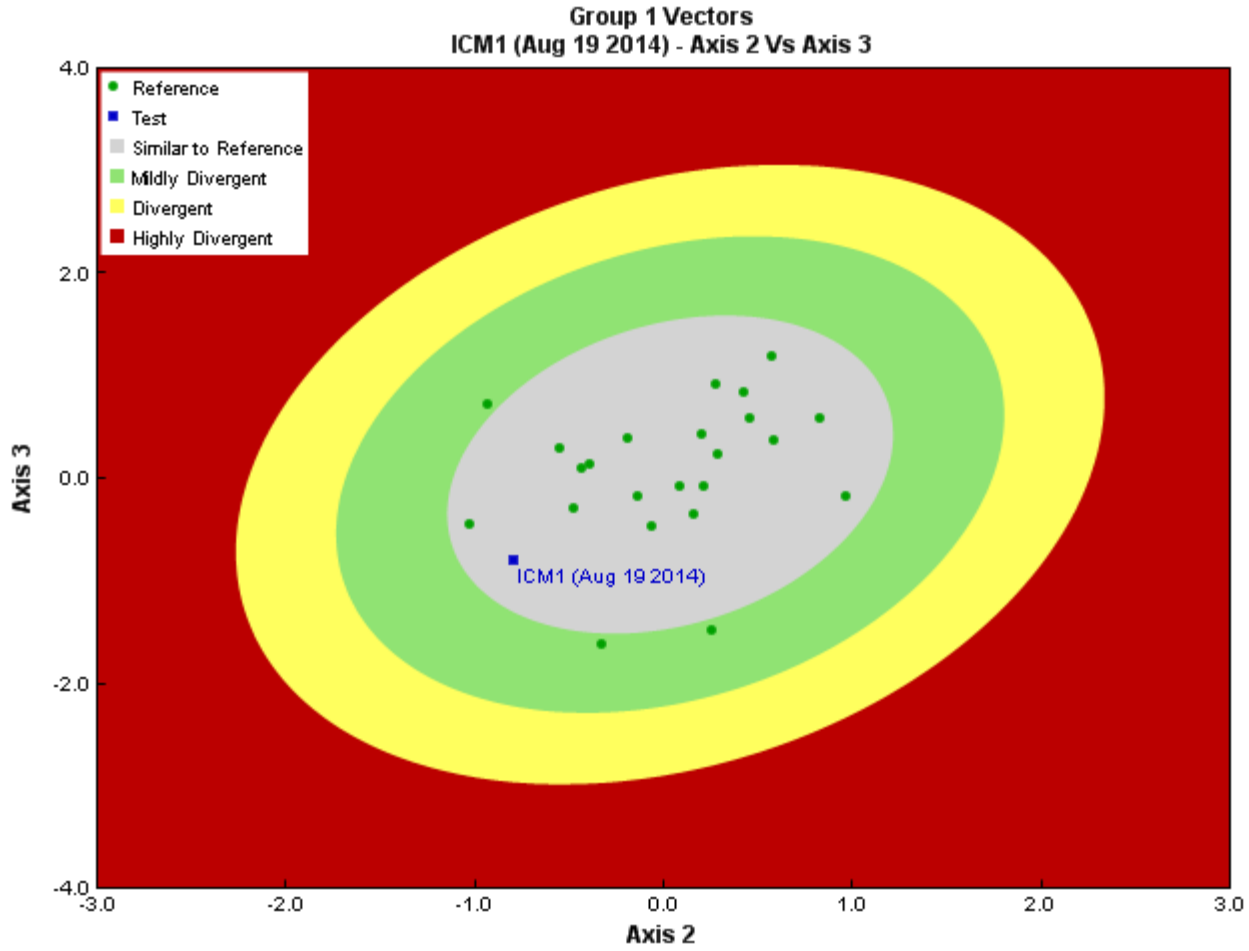


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta			1	1.0
Arthropoda	Arachnida	Sarcoptiformes	Hydrozetidae	1	1.0
	Insecta	Diptera	Chironomidae	169	169.0
			Empididae	2	2.0
			Tipulidae	5	5.0
		Ephemeroptera	Baetidae	2	2.0
			Ephemerellidae	5	5.0
			Heptageniidae	24	24.0
		Plecoptera	Chloroperlidae	9	9.0
		Trichoptera	Limnephilidae	3	3.0
			Total	221	221.0

Site Metrics

Metric Name	ICM1	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.9	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at ICM1
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	1.97
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	0.51
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	ICM1	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	28.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.34	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.20000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.00000	25.54674 ± 9.71520
Precip06_JUN (mm)	47.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	61.50000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	47.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.10000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.48148	0.19525 ± 0.41187
Natl-Bryoids (%)	1.35922	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	2.17402	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	ICM1
Sampling Date	Jul 28 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.82747 N, 138.51100 W
Altitude	1463
Feature Name	Isaac Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	61.1%	33.4%	1.2%	4.4%	0.0%
CABIN Assessment of ICM1 on Jul 28, 2015	Mildly Divergent				

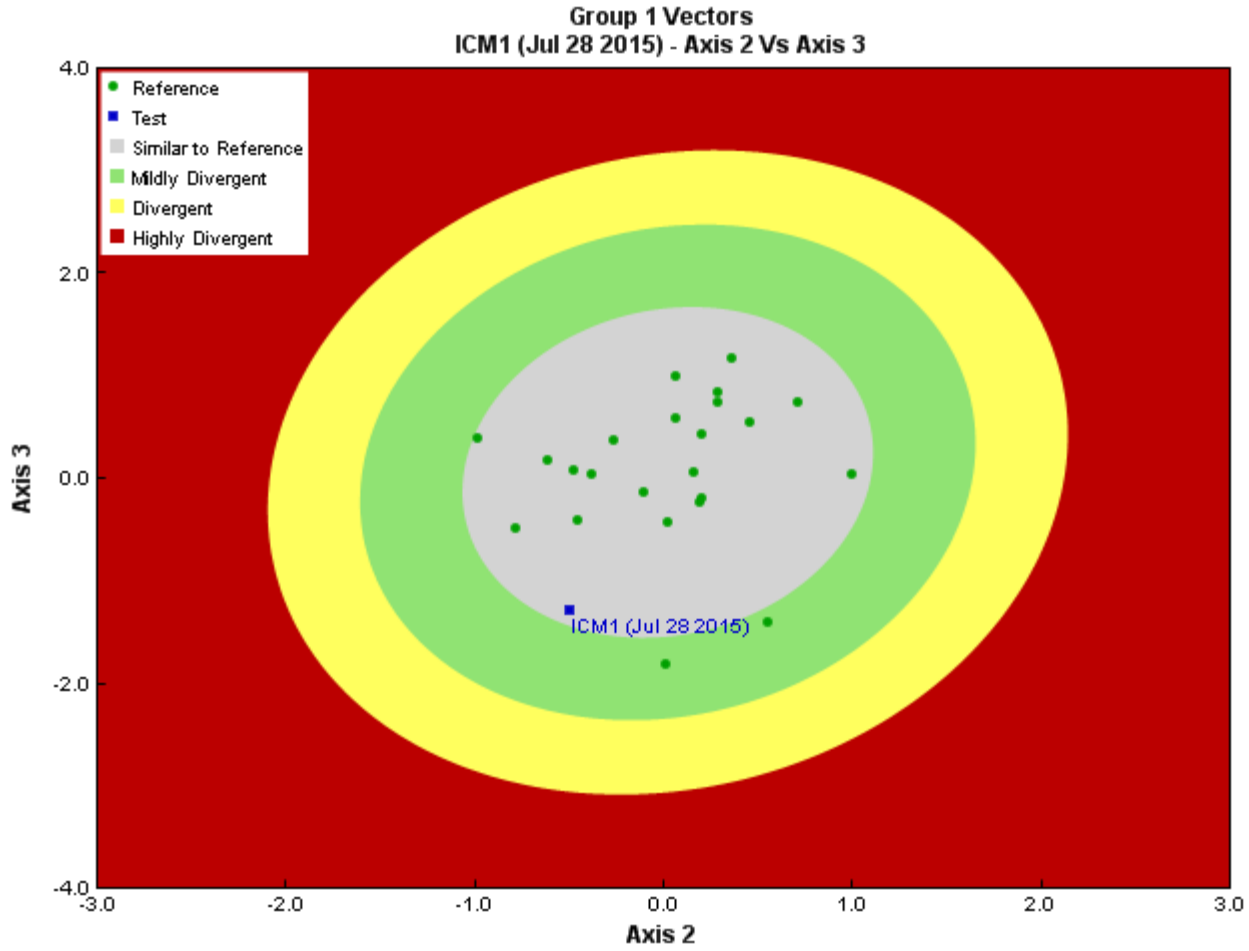


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Sarcoptiformes		1	1.0
	Insecta	Diptera	Chironomidae	171	171.0
			Empididae	22	22.0
			Simuliidae	51	51.0
			Tipulidae	4	4.0
		Ephemeroptera	Baetidae	17	17.0
			Ephemerellidae	1	1.0
			Heptageniidae	94	94.0
		Plecoptera	Capniidae	2	2.0
			Chloroperlidae	23	23.0
			Perlodidae	1	1.0
	Malacostraca	Amphipoda		3	3.0
			Total	390	390.0

Site Metrics

Metric Name	ICM1	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.94	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at ICM1
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.55
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.18
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	ICM1	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	13.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.24	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.20000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.00000	25.54674 ± 9.71520
Precip06_JUN (mm)	47.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	61.50000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	47.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.10000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.48148	0.19525 ± 0.41187
Natl-Bryoids (%)	1.35922	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	2.17402	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ20
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.94400 N, 139.24900 W
Altitude	1404
Feature Name	Halfway Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	86.7%	12.6%	0.2%	0.6%	0.0%
CABIN Assessment of AQ20 on Aug 29, 2014	Mildly Divergent				

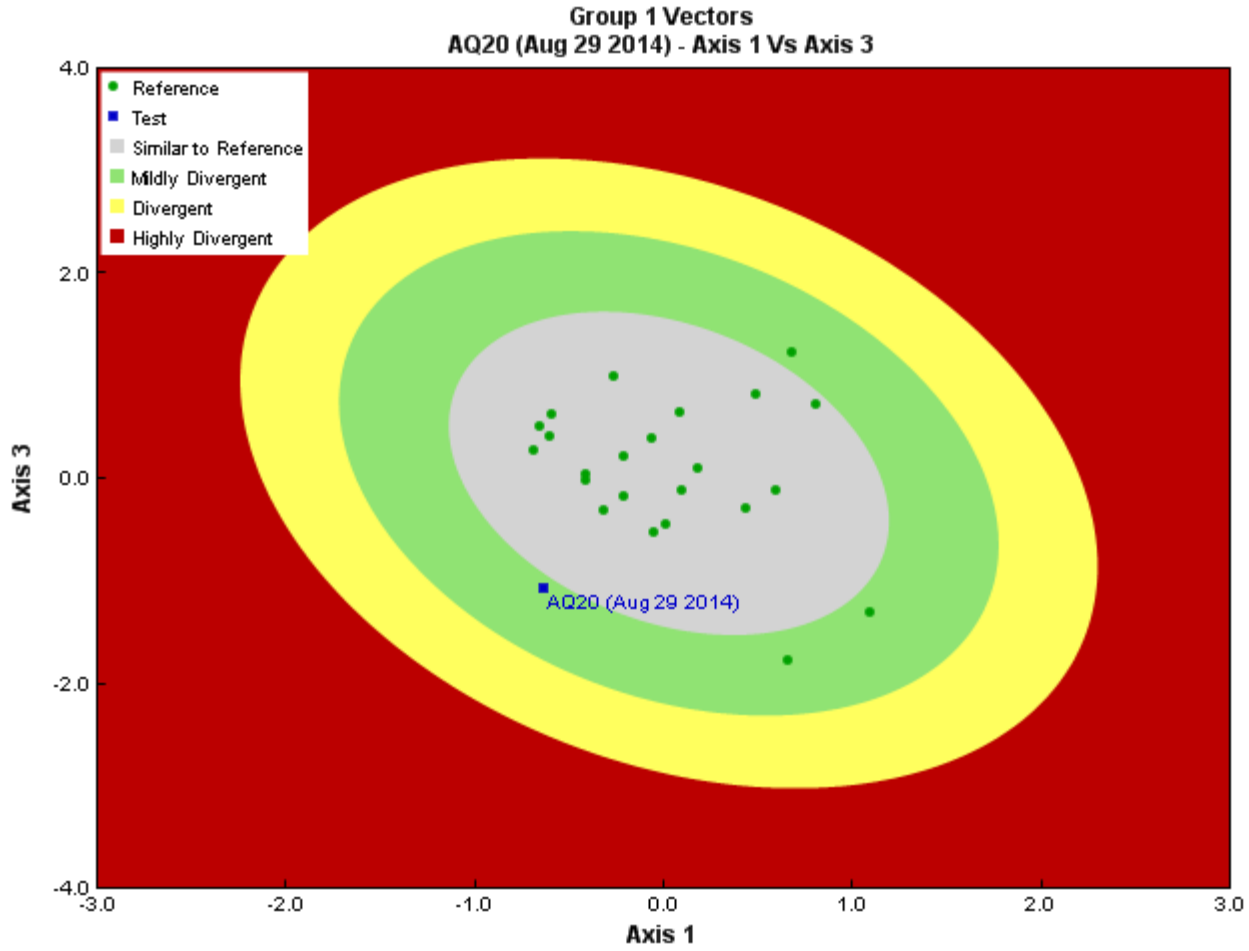


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	7	7.0
Arthropoda	Arachnida	Sarcoptiformes	Hydrozetidae	2	2.0
		Trombidiformes	Hydryphantidae	1	1.0
			Sperchontidae	2	2.0
	Insecta	Diptera	Chironomidae	111	111.0
			Simuliidae	8	8.0
		Ephemeroptera	Baetidae	22	22.0
			Heptageniidae	11	11.0
		Plecoptera		1	1.0
			Chloroperlidae	1	1.0
			Nemouridae	93	93.0
		Trichoptera	Limnephilidae	1	1.0
			Total	260	260.0

Site Metrics

Metric Name	AQ20	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.92	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ20
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.92

RIVPACS : Expected taxa P>0.50	0.92
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.08
RIVPACS : Expected taxa P>0.70	0.92
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.08

D. Habitat Description

Variable	AQ20	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	18.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.07	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.10000	27.73943 ± 9.10561
Precip03_MAR (mm)	10.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	49.00000	49.78117 ± 15.10067
Precip07_JUL (mm)	62.00000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	49.00000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.30000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.03620	0.19525 ± 0.41187
Natl-Bryoids (%)	0.37008	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	1.88321	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ20
Sampling Date	Jul 30 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.94400 N, 139.24900 W
Altitude	1404
Feature Name	Halfway Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	92.4%	6.6%	0.4%	0.6%	0.0%
CABIN Assessment of AQ20 on Jul 30, 2015	Mildly Divergent				

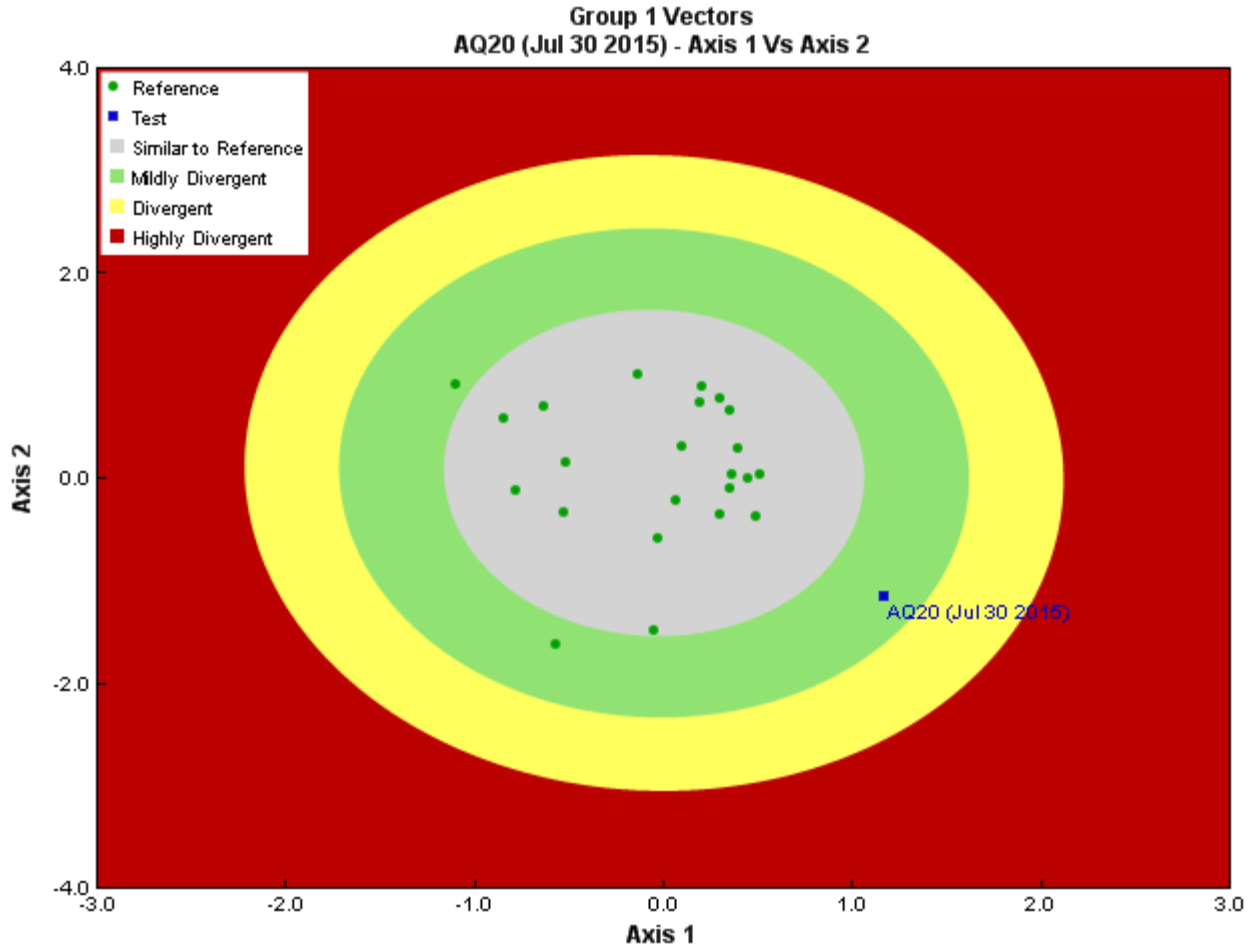


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	46/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	1	2.2
Arthropoda	Arachnida	Sarcoptiformes		1	2.2
	Insecta	Diptera		1	2.2
			Chironomidae	63	137.0
			Empididae	1	2.2
			Simuliidae	52	113.0
			Tipulidae	2	4.4
		Ephemeroptera	Baetidae	26	56.5
			Heptageniidae	1	2.2
		Plecoptera	Capniidae	3	6.5
			Nemouridae	154	334.8
	Malacostraca	Amphipoda	Gammaridae	1	2.2
Mollusca	Gastropoda			2	4.3
			Total	308	669.7

Site Metrics

Metric Name	AQ20	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.97	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ20
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.92

RIVPACS : Expected taxa P>0.50	0.92
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.09
RIVPACS : Expected taxa P>0.70	0.92
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.09

D. Habitat Description

Variable	AQ20	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	44.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.79	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.10000	27.73943 ± 9.10561
Precip03_MAR (mm)	10.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	49.00000	49.78117 ± 15.10067
Precip07_JUL (mm)	62.00000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	49.00000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.30000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.03620	0.19525 ± 0.41187
Natl-Bryoids (%)	0.37008	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	1.88321	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ30
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.93137 N, 139.23300 W
Altitude	1407
Feature Name	Unnamed
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	88.3%	10.9%	0.2%	0.6%	0.0%
CABIN Assessment of AQ30 on Aug 29, 2014	Mildly Divergent				

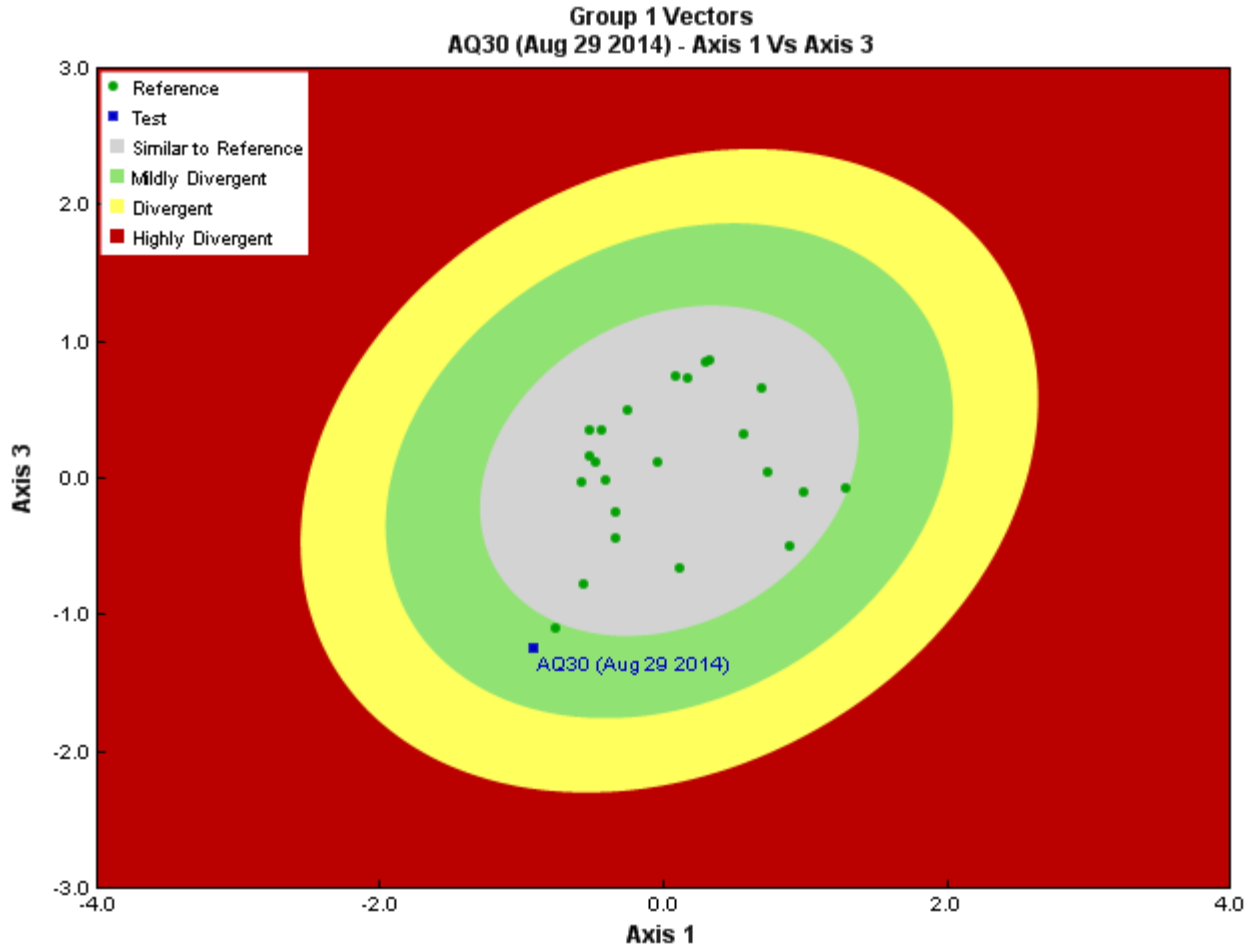


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	4	4.0
Arthropoda	Arachnida	Sarcoptiformes	Hydrozetidae	5	5.0
		Trombidiformes		1	1.0
			Sperchontidae	3	3.0
	Insecta	Coleoptera	Dytiscidae	1	1.0
		Diptera	Chironomidae	188	188.0
			Simuliidae	3	3.0
			Tipulidae	3	3.0
		Ephemeroptera	Baetidae	71	71.0
			Heptageniidae	17	17.0
		Plecoptera		5	5.0
			Capniidae	29	29.0
			Nemouridae	361	361.0
Mollusca	Gastropoda	Heterostropha	Valvatidae	1	1.0
			Total	692	692.0

Site Metrics

Metric Name	AQ30	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.97	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ30
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.92

RIVPACS : Expected taxa P>0.50	0.92
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.08
RIVPACS : Expected taxa P>0.70	0.92
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.08

D. Habitat Description

Variable	AQ30	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	11.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.10	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.00000	27.73943 ± 9.10561
Precip03_MAR (mm)	10.70000	25.54674 ± 9.71520
Precip06_JUN (mm)	48.20000	49.78117 ± 15.10067
Precip07_JUL (mm)	61.20000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	48.20000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	5.50000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.05327	0.19525 ± 0.41187
Natl-Bryoids (%)	0.26099	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	2.18745	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ11
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.94198 N, 139.50500 W
Altitude	1483
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	57.3%	39.9%	1.0%	1.8%	0.0%
CABIN Assessment of AQ11 on Aug 29, 2014	Mildly Divergent				

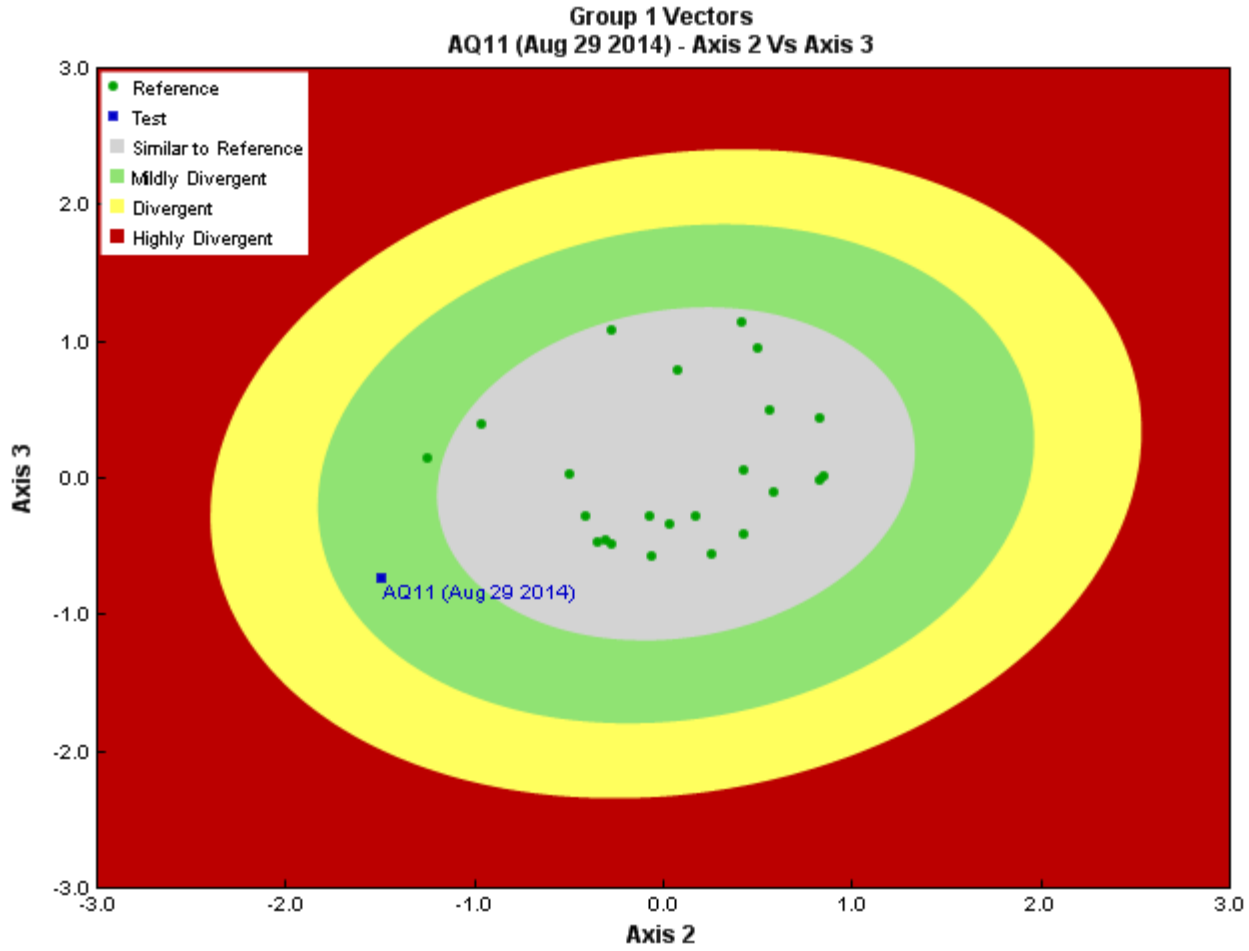


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	40/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	2	5.0
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	2	5.0
	Insecta	Diptera	Chironomidae	155	387.5
			Empididae	8	20.0
			Simuliidae	16	40.0
			Tipulidae	2	5.0
		Ephemeroptera	Baetidae	47	117.5
			Heptageniidae	36	90.0
		Plecoptera		1	2.5
			Capniidae	12	30.0
			Chloroperlidae	1	2.5
			Nemouridae	53	132.5
			Perlodidae	6	15.0
	Malacostraca	Amphipoda	Hyalellidae	1	2.5
			Total	342	855.0

Site Metrics

Metric Name	AQ11	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.97	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ11
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.59
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.54
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.05

D. Habitat Description

Variable	AQ11	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	18.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.27	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.70000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.60000	49.78117 ± 15.10067
Precip07_JUL (mm)	69.30000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.60000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	3.80000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00505	0.19525 ± 0.41187
Natl-Bryoids (%)	1.36645	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.85391	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ11
Sampling Date	Jul 28 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.94198 N, 139.50500 W
Altitude	1483
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	63.0%	34.2%	1.1%	1.6%	0.0%
CABIN Assessment of AQ11 on Jul 28, 2015	Highly Divergent				

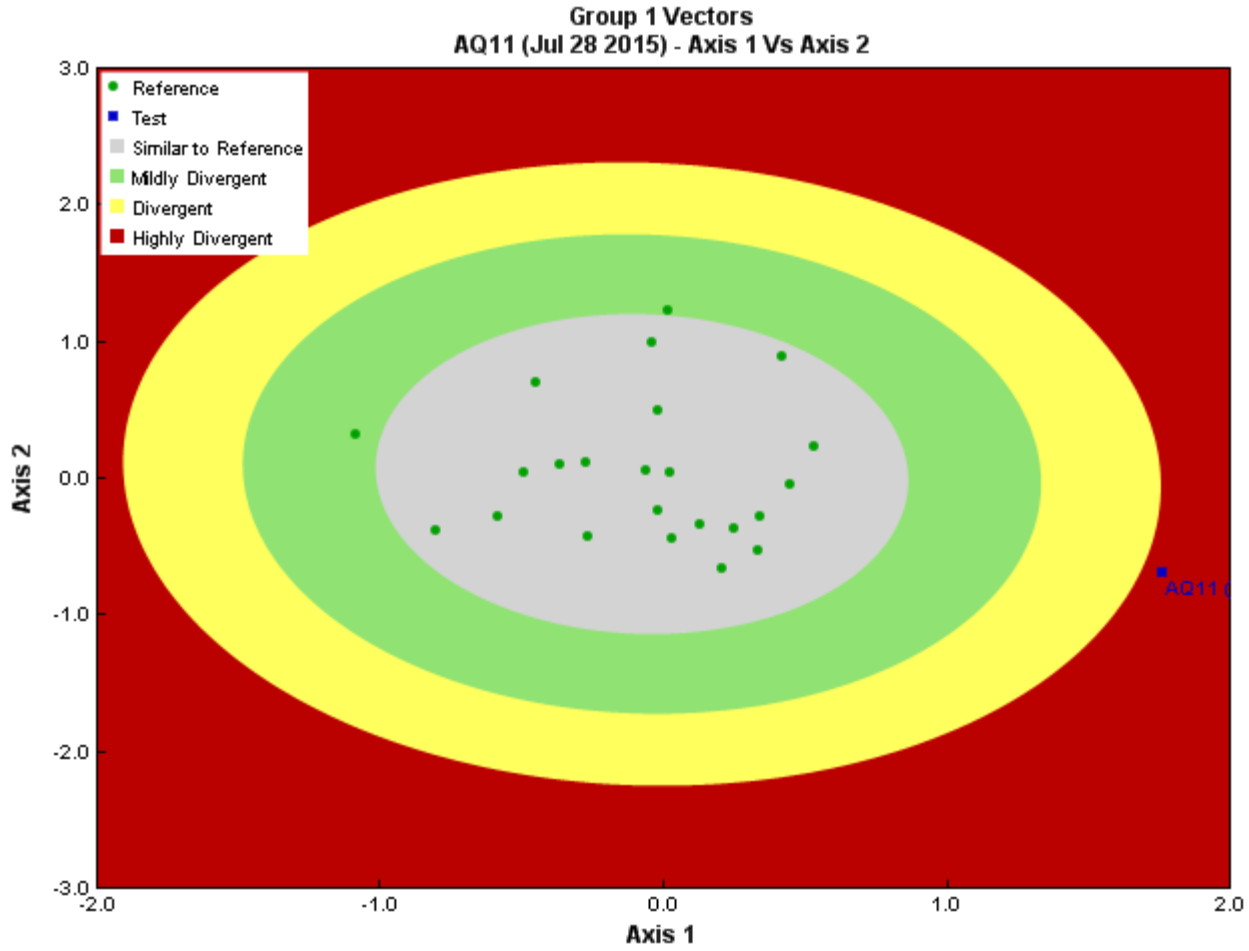


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	15/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	1	6.7
	Insecta	Diptera	Chironomidae	30	200.1
			Simuliidae	220	1,466.7
		Ephemeroptera	Baetidae	35	233.4
			Heptageniidae	12	80.0
		Plecoptera	Capniidae	2	13.3
			Nemouridae	20	133.4
			Perlodidae	2	13.3
	Malacostraca	Amphipoda	Hyalellidae	1	6.7
			Total	323	2,153.6

Site Metrics

Metric Name	AQ11	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.99	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ11
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.51
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.59
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ11	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	29.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.41	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.70000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.60000	49.78117 ± 15.10067
Precip07_JUL (mm)	69.30000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.60000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	3.80000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00505	0.19525 ± 0.41187
Natl-Bryoids (%)	1.36645	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.85391	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ13
Sampling Date	Aug 30 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.90035 N, 139.45700 W
Altitude	2408
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	64.6%	31.6%	1.2%	2.5%	0.0%
CABIN Assessment of AQ13 on Aug 30, 2014	Divergent				

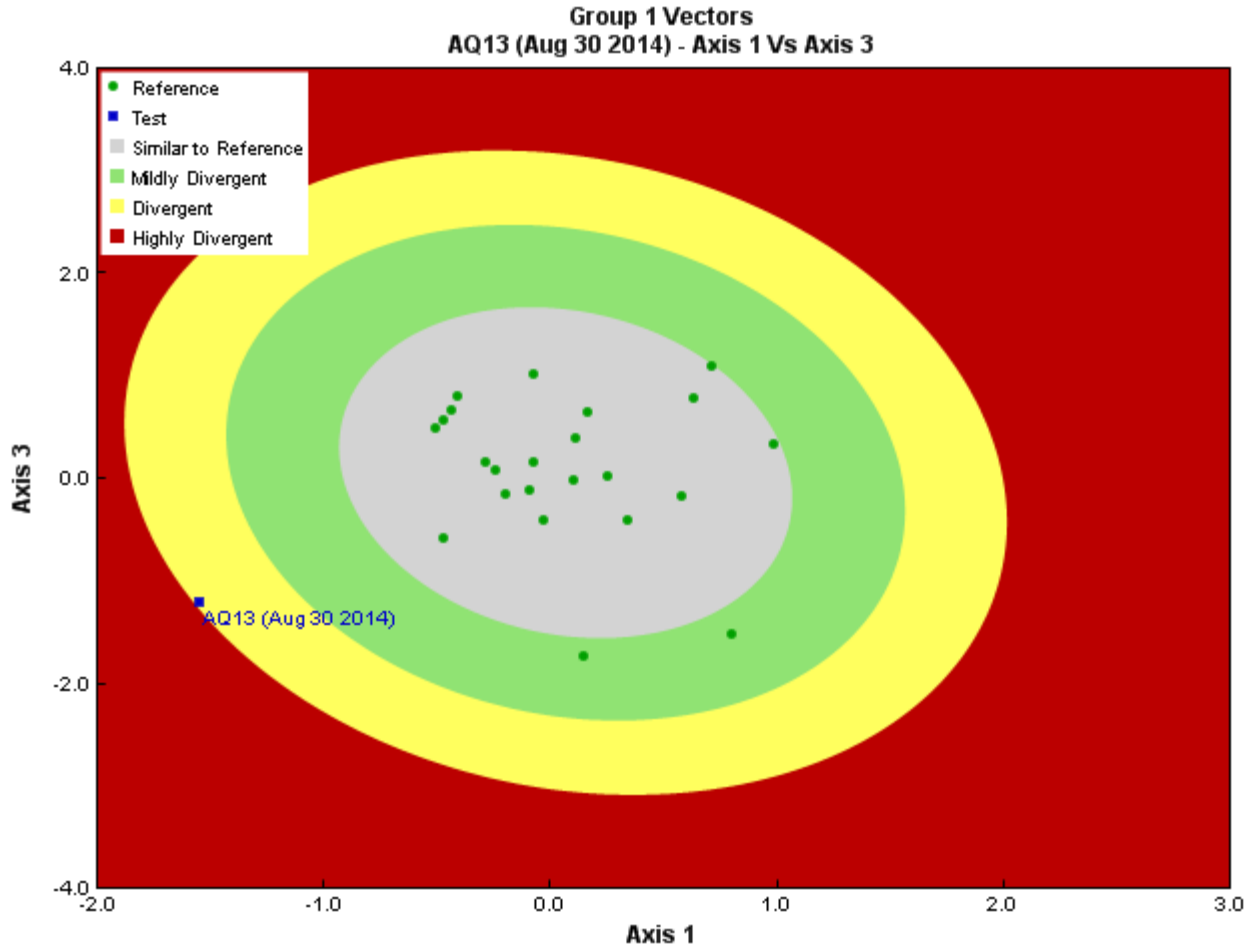


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	19/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	2	10.5
Arthropoda	Insecta	Diptera	Chironomidae	143	752.7
			Simuliidae	5	26.3
		Ephemeroptera	Baetidae	32	168.5
		Plecoptera		2	10.5
			Capniidae	5	26.4
			Chloroperlidae	2	10.5
			Nemouridae	116	610.5
Mollusca	Gastropoda	Basommatophora	Lymnaeidae	2	10.5
			Total	309	1,626.4

Site Metrics

Metric Name	AQ13	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.99	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ13
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	2.00
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.50
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ13	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	14.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.06	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	13.00000	27.73943 ± 9.10561
Precip03_MAR (mm)	12.20000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	68.70000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	3.80000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00000	0.19525 ± 0.41187
Natl-Bryoids (%)	0.68796	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.49116	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ13
Sampling Date	Jul 28 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.90035 N, 139.45700 W
Altitude	2408
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	73.1%	21.5%	2.4%	3.0%	0.0%
CABIN Assessment of AQ13 on Jul 28, 2015	Similar to Reference				

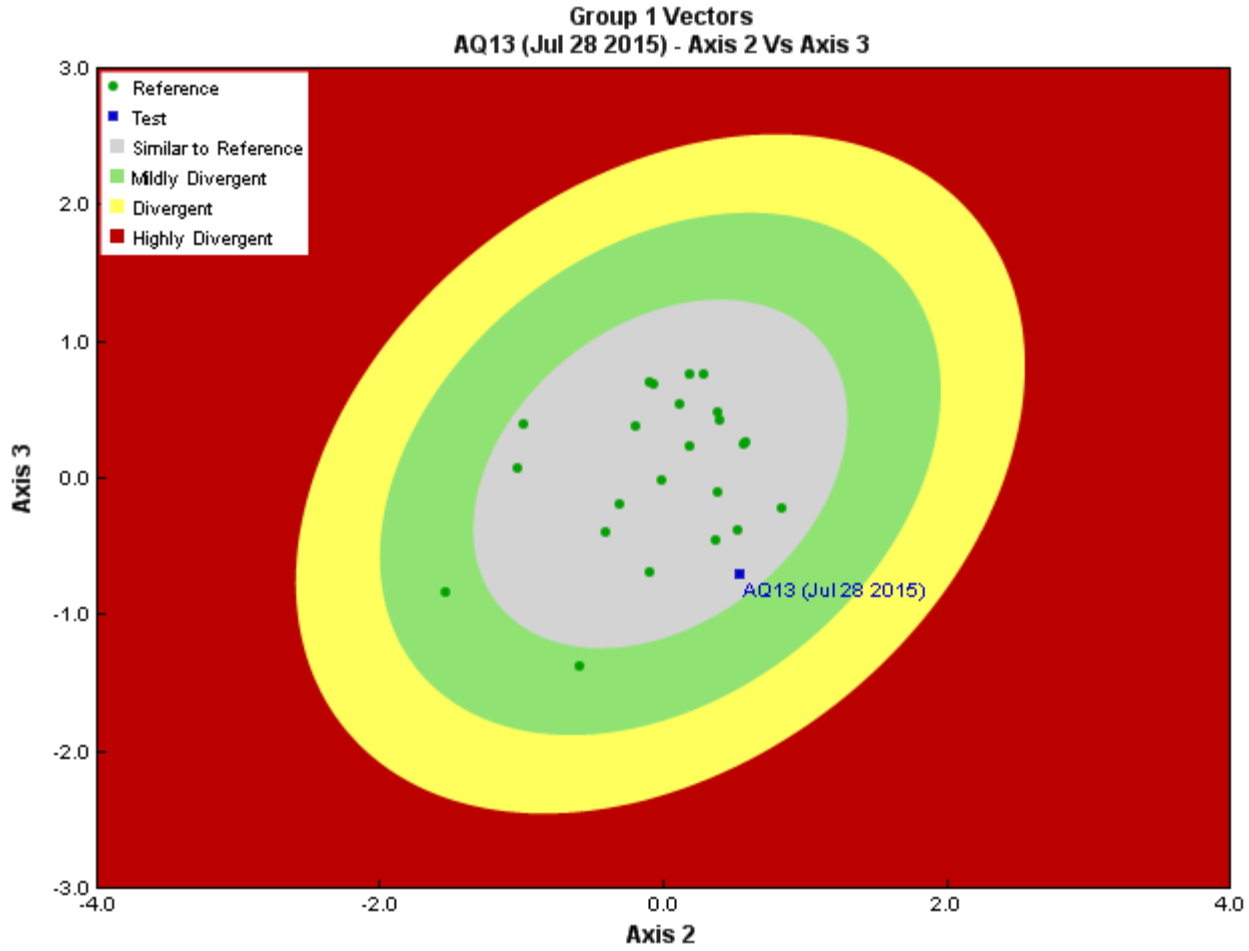


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	3	3.0
			Naididae	4	4.0
Arthropoda	Arachnida	Sarcoptiformes		2	2.0
	Insecta	Diptera		2	2.0
			Chironomidae	60	60.0
			Muscidae	1	1.0
			Simuliidae	17	17.0
		Ephemeroptera	Baetidae	3	3.0
		Plecoptera		1	1.0
			Capniidae	6	6.0
			Nemouridae	36	36.0
			Total	135	135.0

Site Metrics

Metric Name	AQ13	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.84	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ13
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	0.94
RIVPACS : Observed taxa P>0.50	1.00
RIVPACS : O:E (p > 0.5)	1.07
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.07

D. Habitat Description

Variable	AQ13	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	32.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.60	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	13.00000	27.73943 ± 9.10561
Precip03_MAR (mm)	12.20000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	68.70000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	3.80000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00000	0.19525 ± 0.41187
Natl-Bryoids (%)	0.68796	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.49116	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ04
Sampling Date	Aug 30 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.86623 N, 139.34400 W
Altitude	2477
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	43.8%	47.8%	2.9%	5.6%	0.0%
CABIN Assessment of AQ04 on Aug 30, 2014	Mildly Divergent				

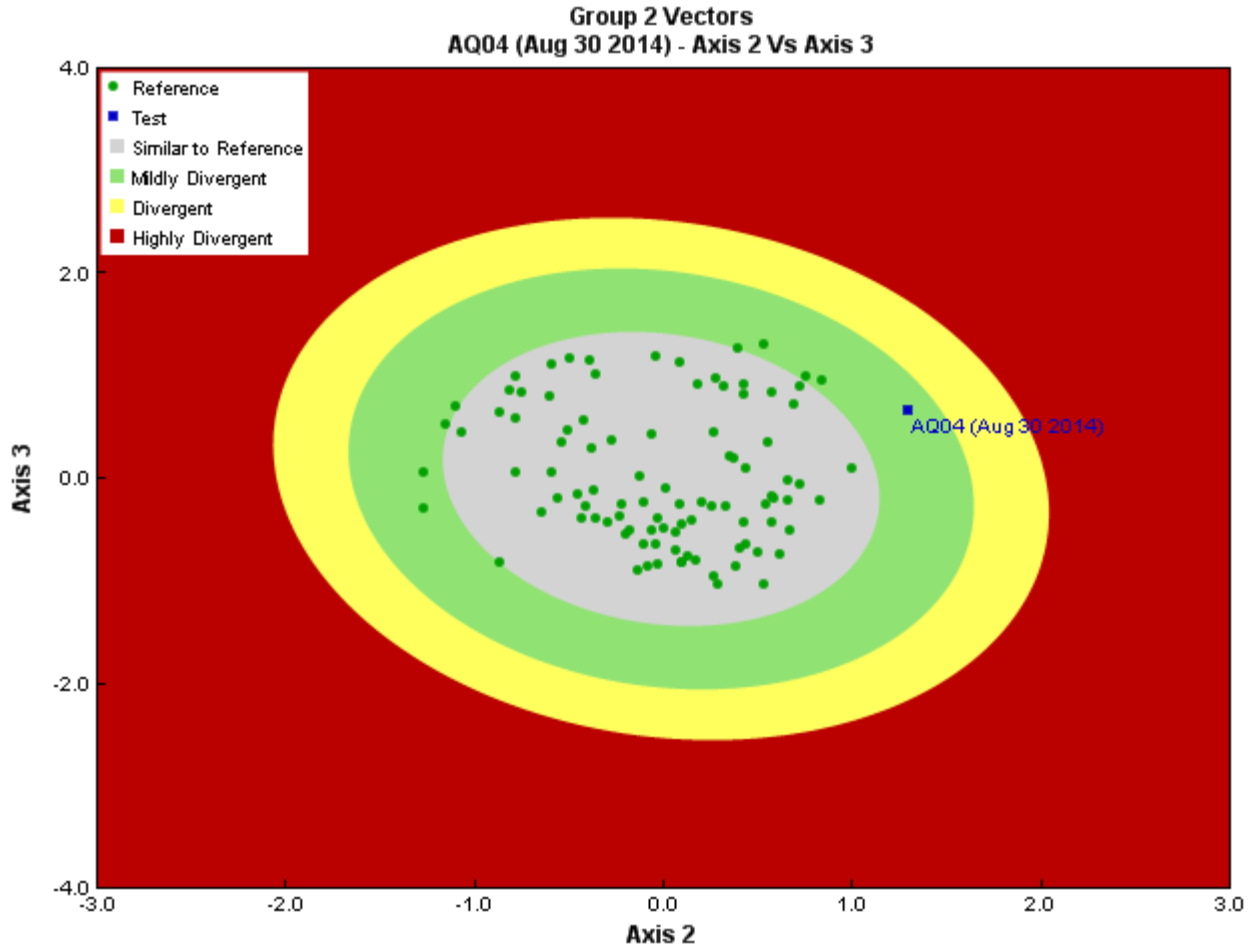


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	30	30.0
Arthropoda	Arachnida			14	14.0
		Sarcoptiformes	Hydrozetidae	1	1.0
		Trombidiformes	Hydryphantidae	1	1.0
			Sperchontidae	10	10.0
	Insecta	Diptera		1	1.0
			Chironomidae	53	53.0
			Simuliidae	1	1.0
			Tipulidae	7	7.0
		Ephemeroptera	Ameletidae	2	2.0
			Baetidae	40	40.0
			Heptageniidae	261	261.0
		Plecoptera	Capniidae	26	26.0
			Chloroperlidae	10	10.0
			Nemouridae	278	278.0

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
			Perlodidae	2	2.0
		Trichoptera	Limnephilidae	13	13.0
			Total	750	750.0

Site Metrics

Metric Name	AQ04	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.81	0.5 ± 0.2

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ04
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.96

RIVPACS : Expected taxa P>0.50	2.79
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.43
RIVPACS : Expected taxa P>0.70	0.96
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.04

D. Habitat Description

Variable	AQ04	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	18.0	31.5 ± 19.7
Velocity-Avg (m/s)	0.18	0.43 ± 0.26
Climate		
Precip02_FEB (mm)	12.70000	28.46252 ± 7.49311
Precip03_MAR (mm)	11.80000	26.42293 ± 7.74153
Precip06_JUN (mm)	53.70000	57.03745 ± 13.62127
Precip07_JUL (mm)	67.40000	72.89271 ± 17.78889
Rainfall06_JUN (mm)	53.70000	49.24817 ± 11.41222
Temp04_APRmax (Degrees Celsius)	4.07500	0.92957 ± 4.22238
Landcover		
Natl-BroadleafOpen (%)	0.07973	0.14219 ± 0.34573
Natl-Bryoids (%)	1.62143	0.31692 ± 0.61087
Natl-MixedwoodOpen (%)	0.00000	0.75941 ± 1.44798
Natl-WetlandHerb (%)	0.00000	0.10497 ± 0.30427

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ04.5
Sampling Date	Jul 30 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.86546 N, 139.33353 W
Altitude	2385
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	56.8%	34.3%	4.2%	4.7%	0.0%
CABIN Assessment of AQ04.5 on Jul 30, 2015	Mildly Divergent				

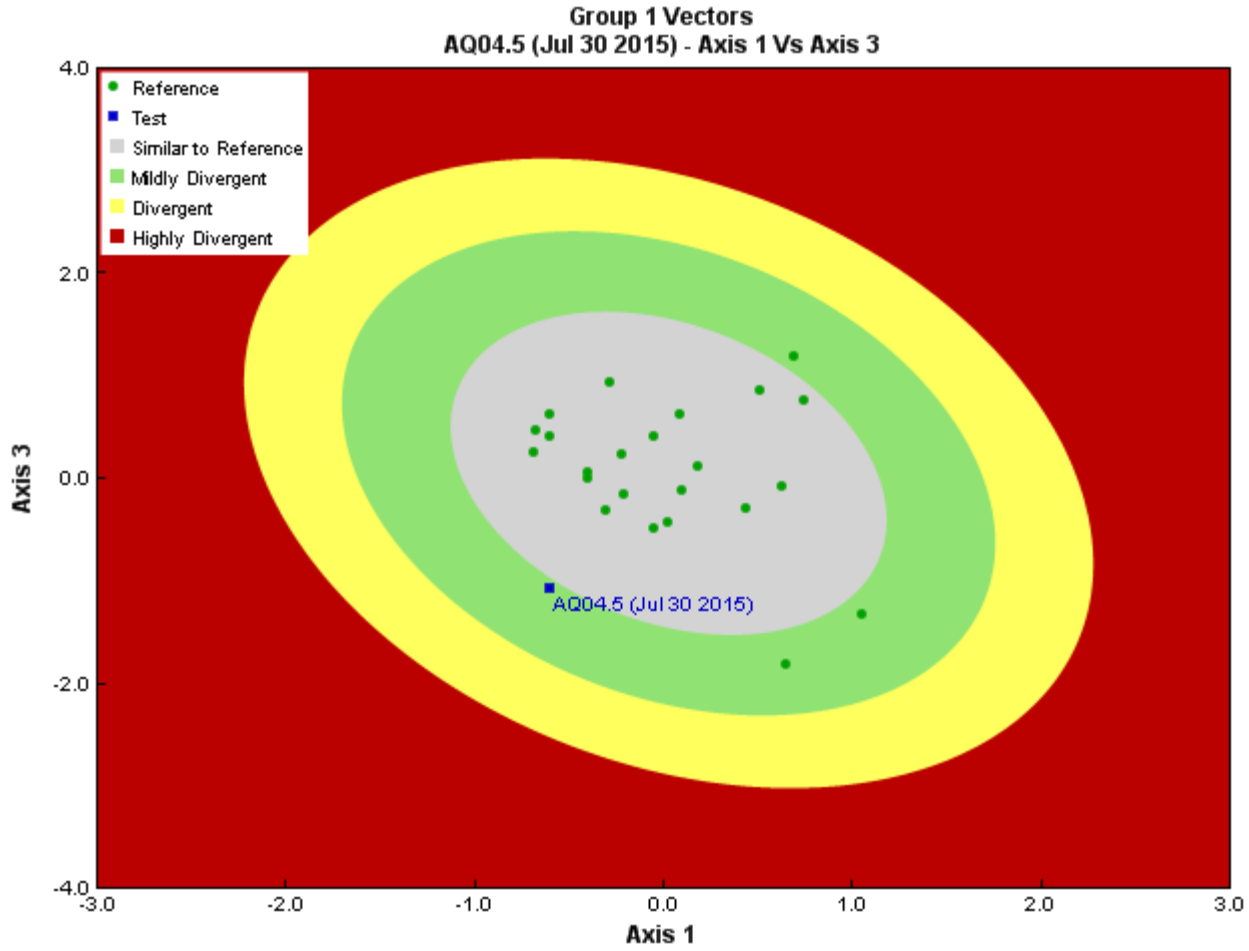


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	4	4.0
Arthropoda	Arachnida	Sarcoptiformes		3	3.0
		Trombidiformes		1	1.0
			Sperchontidae	1	1.0
	Insecta	Diptera		1	1.0
			Chironomidae	85	85.0
			Simuliidae	30	30.0
			Tipulidae	1	1.0
		Ephemeroptera	Baetidae	48	48.0
			Heptageniidae	5	5.0
		Plecoptera	Capniidae	8	8.0
			Nemouridae	59	59.0
Tardigrada				1	1.0
			Total	247	247.0

Site Metrics

Metric Name	AQ04.5	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.91	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ04.5
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.62
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.53
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.05

D. Habitat Description

Variable	AQ04.5	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	53.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.65	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	13.10000	27.73943 ± 9.10561
Precip03_MAR (mm)	12.70000	25.54674 ± 9.71520
Precip06_JUN (mm)	57.00000	49.78117 ± 15.10067
Precip07_JUL (mm)	70.90000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	57.00000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	3.21000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.07437	0.19525 ± 0.41187
Natl-Bryoids (%)	1.51230	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.00000	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ10
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.96988 N, 139.43400 W
Altitude	1400
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	64.4%	32.6%	1.1%	1.9%	0.0%
CABIN Assessment of AQ10 on Aug 29, 2014	Divergent				

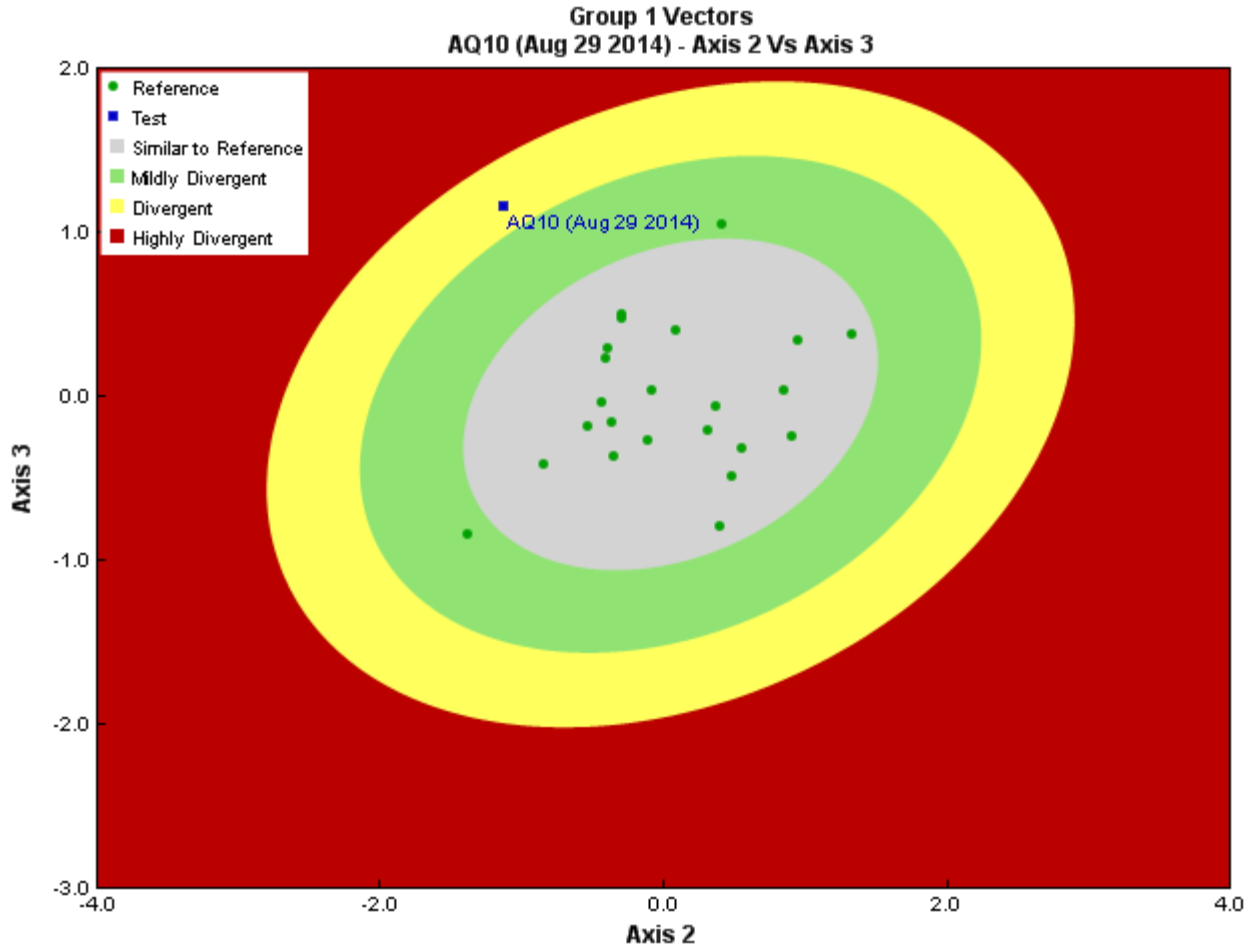


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	40/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta			1	2.5
Arthropoda	Insecta	Diptera	Chironomidae	281	702.5
			Empididae	1	2.5
			Simuliidae	2	5.0
			Tipulidae	5	12.5
		Ephemeroptera	Baetidae	17	42.5
			Heptageniidae	34	85.0
		Plecoptera	Capniidae	5	12.5
			Chloroperlidae	11	27.5
			Nemouridae	13	32.5
			Perlodidae	8	20.0
		Trichoptera	Limnephilidae	14	35.0
			Total	392	980.0

Site Metrics

Metric Name	AQ10	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.98	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ10
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	2.00
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.50
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ10	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	18.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.43	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.60000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	68.70000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.10000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00457	0.19525 ± 0.41187
Natl-Bryoids (%)	1.28439	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	1.13939	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ10
Sampling Date	Jul 28 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.96988 N, 139.43400 W
Altitude	1400
Feature Name	Independence Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	66.3%	30.1%	1.4%	2.2%	0.0%
CABIN Assessment of AQ10 on Jul 28, 2015	Highly Divergent				

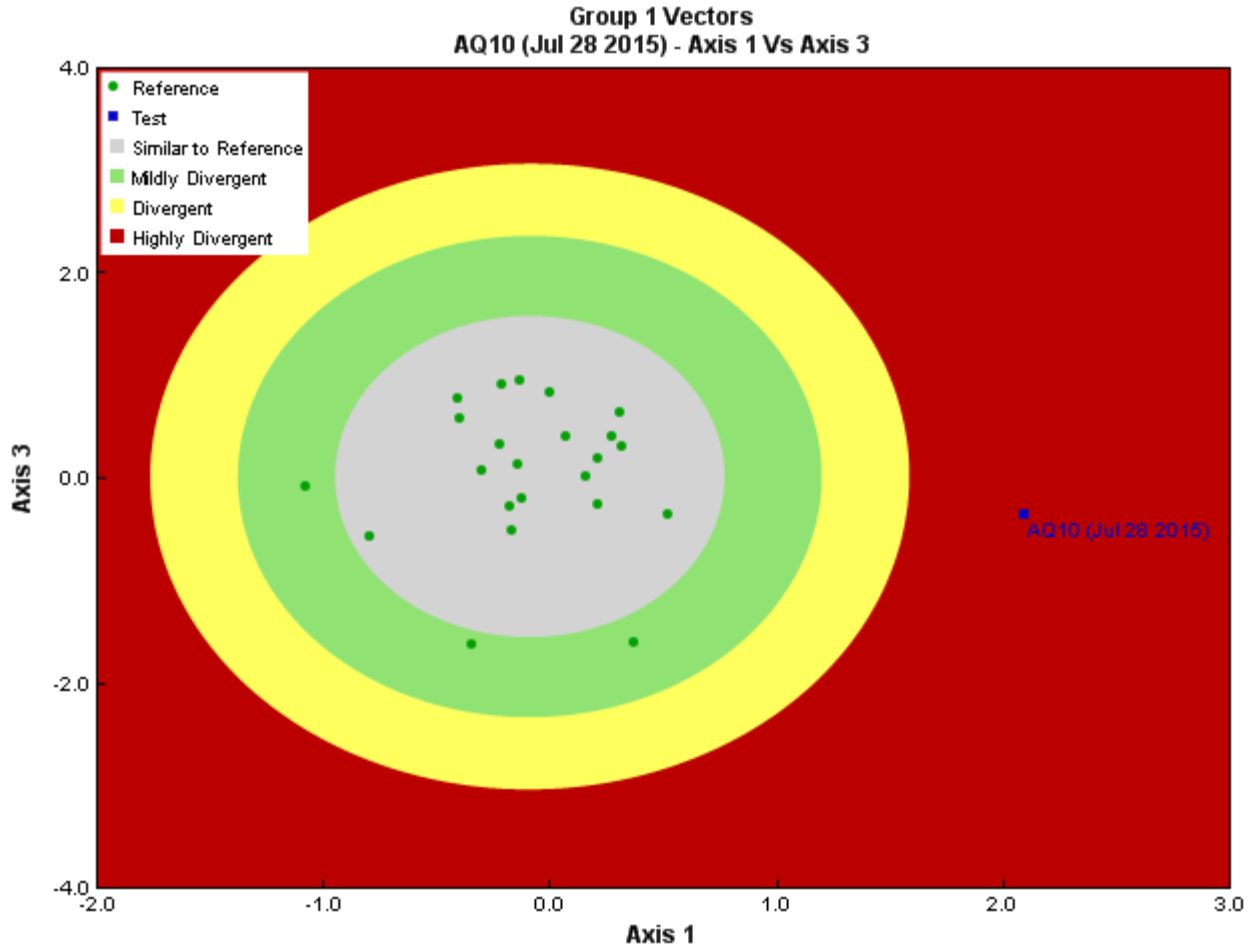


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	5/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Insecta	Diptera	Chironomidae	25	500.0
			Simuliidae	242	4,840.0
		Ephemeroptera	Baetidae	42	840.0
			Heptageniidae	14	280.0
		Plecoptera	Capniidae	1	20.0
			Chloroperlidae	6	120.0
			Nemouridae	9	180.0
			Total	339	6,780.0

Site Metrics

Metric Name	AQ10	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	1.0	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ10
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	1.98
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.51
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ10	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	21.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.60	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.60000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	55.10000	49.78117 ± 15.10067
Precip07_JUL (mm)	68.70000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	55.10000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.10000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.00457	0.19525 ± 0.41187
Natl-Bryoids (%)	1.28439	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	1.13939	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ02
Sampling Date	Jul 26 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.85318 N, 139.14000 W
Altitude	1483
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	50.6%	42.2%	2.7%	4.5%	0.0%
CABIN Assessment of AQ02 on Jul 26, 2015	Highly Divergent				

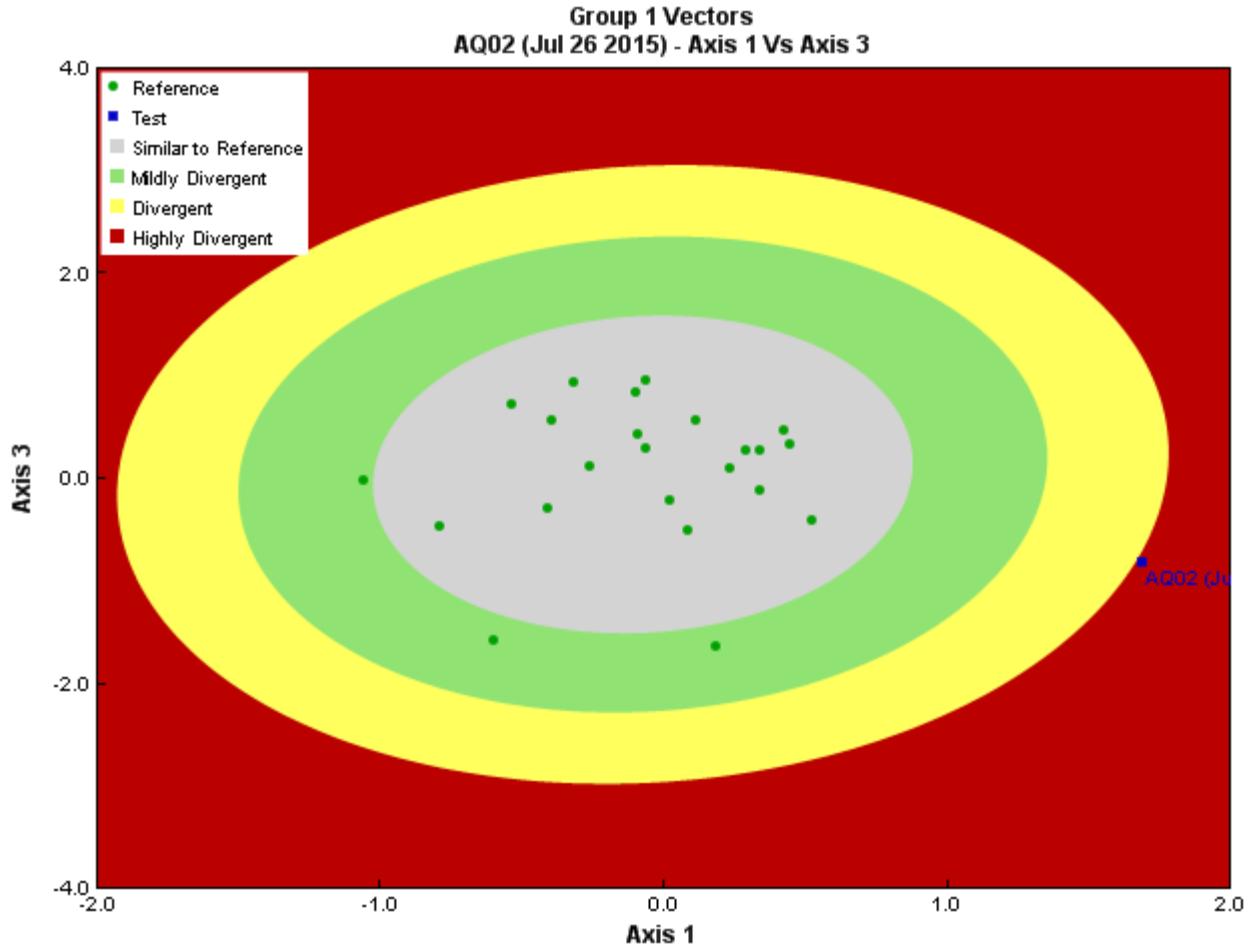


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	13/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Trombidiformes	Feltriidae	1	7.7
			Sperchontidae	5	38.5
	Insecta	Diptera	Chironomidae	36	276.9
			Deuterophlebiidae	4	30.8
			Empididae	1	7.7
			Simuliidae	179	1,376.9
		Ephemeroptera	Baetidae	100	769.2
			Ephemerellidae	5	38.5
			Heptageniidae	18	138.5
		Plecoptera	Chloroperlidae	6	46.2
			Nemouridae	1	7.7
			Perlodidae	3	23.1
			Total	359	2,761.7

Site Metrics

Metric Name	AQ02	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.99	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ02
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.96

RIVPACS : Expected taxa P>0.50	2.70
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.48
RIVPACS : Expected taxa P>0.70	0.96
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.05

D. Habitat Description

Variable	AQ02	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	23.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.57	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.30000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.40000	25.54674 ± 9.71520
Precip06_JUN (mm)	53.20000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.40000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	53.20000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.20000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.43870	0.19525 ± 0.41187
Natl-Bryoids (%)	1.46926	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.62595	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ03
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.85448 N, 139.19600 W
Altitude	1679
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	62.5%	30.7%	2.5%	4.2%	0.0%
CABIN Assessment of AQ03 on Aug 29, 2014	Mildly Divergent				

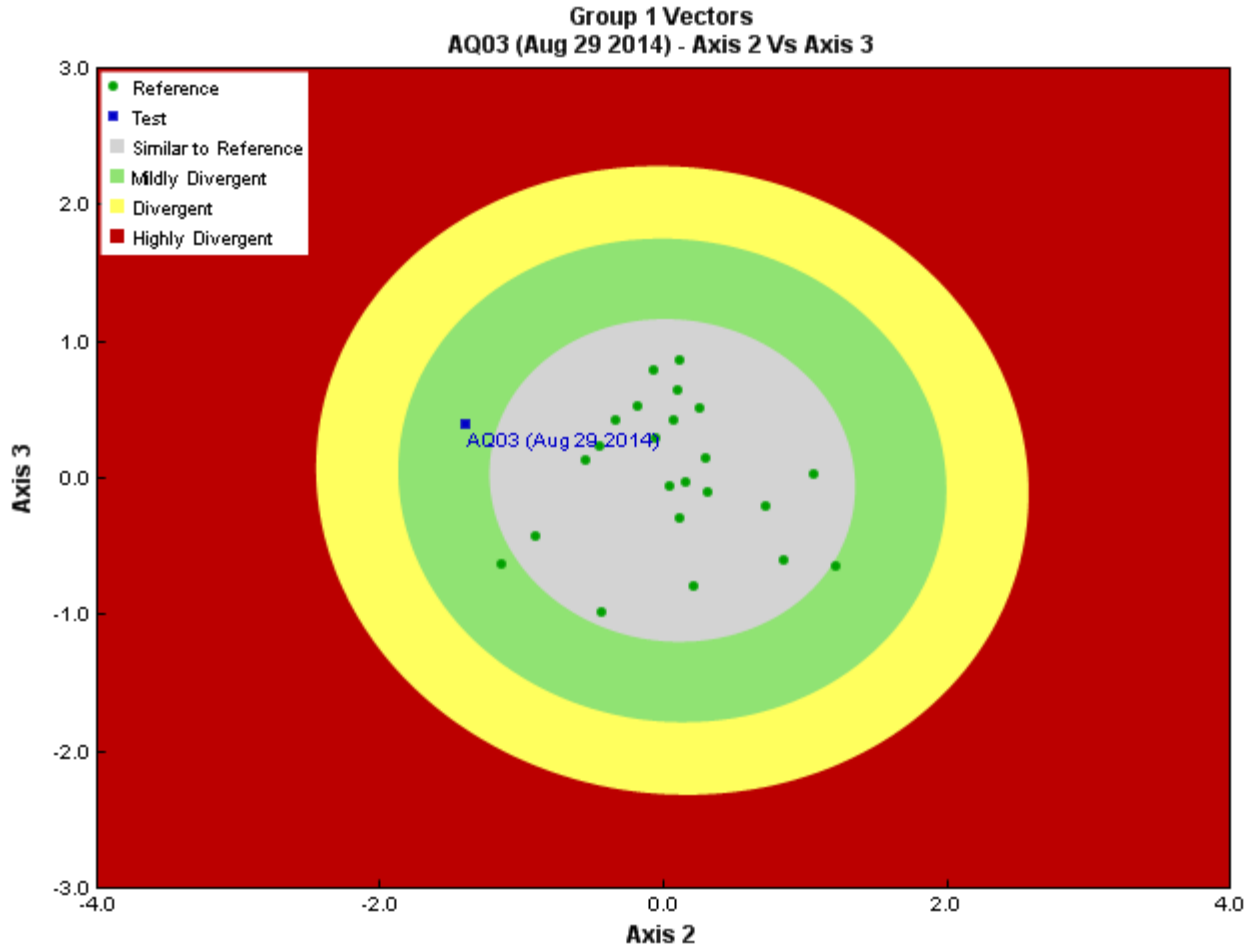


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	4	4.0
Arthropoda	Arachnida	Sarcoptiformes	Hydrozetidae	1	1.0
		Trombidiformes	Sperchontidae	2	2.0
	Insecta	Diptera		134	134.0
			Chironomidae	222	222.0
			Deuterophlebiidae	12	12.0
			Simuliidae	5	5.0
			Tipulidae	7	7.0
		Ephemeroptera	Baetidae	118	118.0
			Ephemerellidae	1	1.0
			Heptageniidae	58	58.0
		Plecoptera	Capniidae	7	7.0
			Chloroperlidae	1	1.0
			Nemouridae	31	31.0
			Perlodidae	16	16.0

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
		Trichoptera	Limnephilidae	35	35.0
	Malacostraca	Amphipoda	Crangonyctidae	7	7.0
			Total	661	661.0

Site Metrics

Metric Name	AQ03	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.96	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ03
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.53
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.58
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.06

D. Habitat Description

Variable	AQ03	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	15.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.28	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.70000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	53.70000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.40000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	53.70000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.07500	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	1.35596	0.19525 ± 0.41187
Natl-Bryoids (%)	0.52060	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.58306	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ03
Sampling Date	Jul 29 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.85448 N, 139.19600 W
Altitude	1679
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	70.8%	20.5%	4.3%	4.5%	0.0%
CABIN Assessment of AQ03 on Jul 29, 2015	Mildly Divergent				

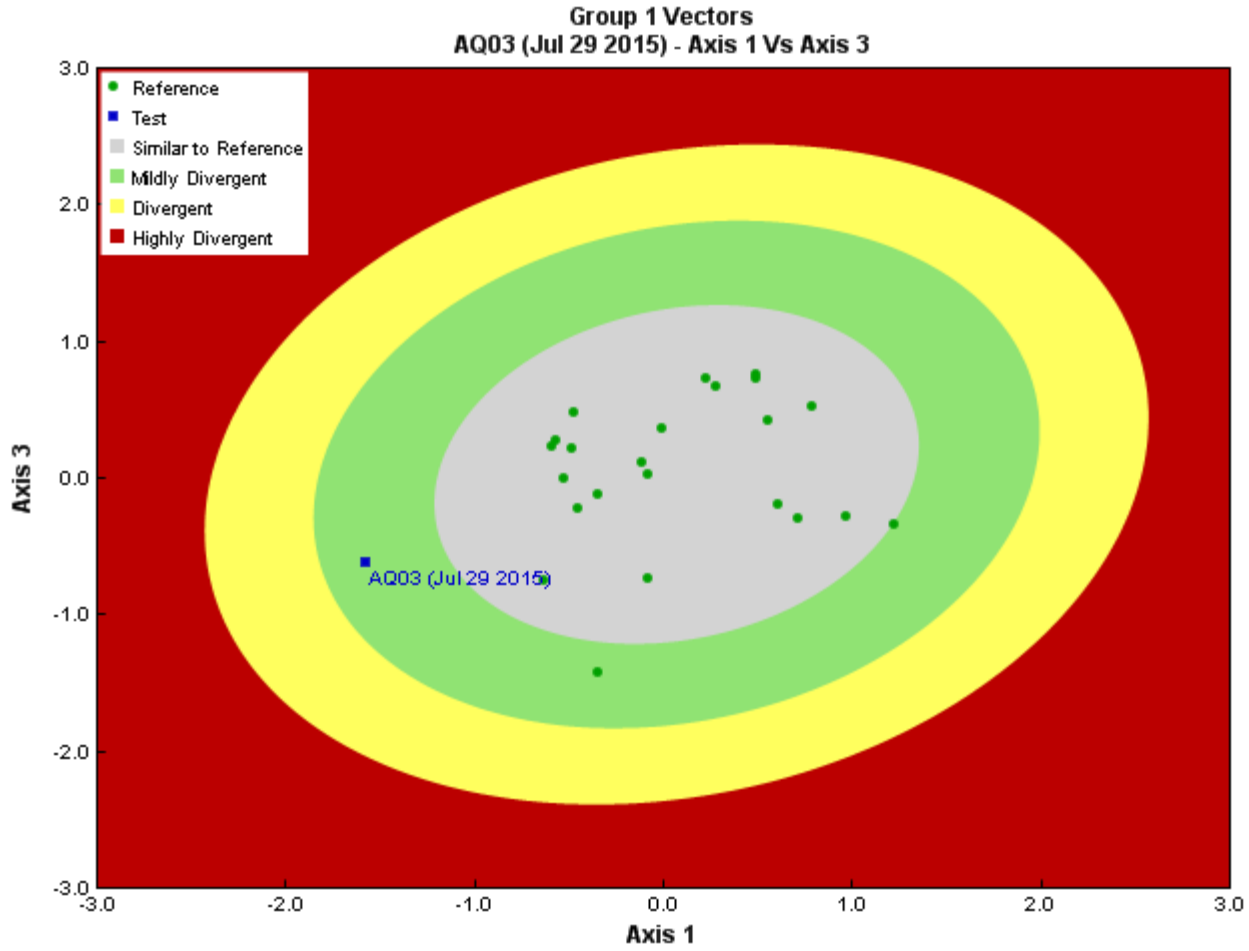


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	36/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	1	2.8
	Insecta	Diptera		2	5.6
			Chironomidae	112	311.2
			Simuliidae	30	83.4
			Tipulidae	2	5.6
		Ephemeroptera	Baetidae	154	427.7
			Heptageniidae	5	13.9
		Plecoptera	Capniidae	2	5.6
			Nemouridae	8	22.2
			Perlodidae	2	5.6
			Total	318	883.6

Site Metrics

Metric Name	AQ03	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.98	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ03
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.94

RIVPACS : Expected taxa P>0.50	1.96
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.53
RIVPACS : Expected taxa P>0.70	0.94
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.07

D. Habitat Description

Variable	AQ03	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	35.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.77	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.70000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.80000	25.54674 ± 9.71520
Precip06_JUN (mm)	53.70000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.40000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	53.70000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.07500	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	1.35596	0.19525 ± 0.41187
Natl-Bryoids (%)	0.52060	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.58306	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ00
Sampling Date	Jul 26 2015
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.88524 N, 139.09500 W
Altitude	1427
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	51.6%	44.1%	1.4%	3.0%	0.0%
CABIN Assessment of AQ00 on Jul 26, 2015	Mildly Divergent				

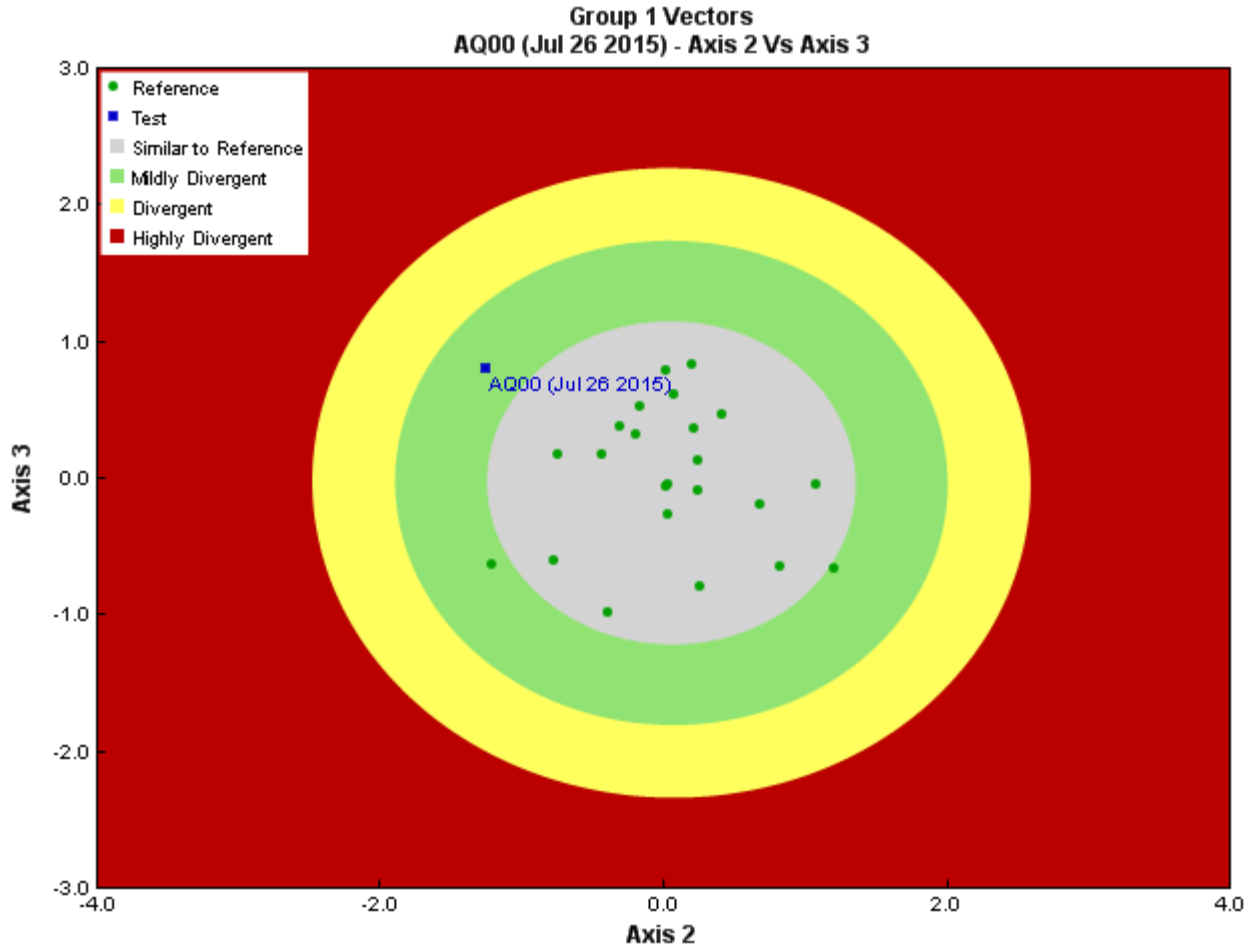


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Annelida	Oligochaeta	Haplotaxida	Enchytraeidae	1	1.0
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	8	8.0
	Insecta	Coleoptera	Curculionidae	1	1.0
		Diptera	Chironomidae	48	48.0
			Deuterophlebiidae	4	4.0
			Empididae	1	1.0
			Simuliidae	13	13.0
			Tipulidae	1	1.0
		Ephemeroptera	Baetidae	160	160.0
			Ephemerellidae	39	39.0
			Heptageniidae	82	82.0
		Plecoptera	Capniidae	2	2.0
			Chloroperlidae	23	23.0
			Perlodidae	2	2.0
			Total	385	385.0

Site Metrics

Metric Name	AQ00	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.94	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ00
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.96

RIVPACS : Expected taxa P>0.50	2.68
RIVPACS : Observed taxa P>0.50	3.00
RIVPACS : O:E (p > 0.5)	1.12
RIVPACS : Expected taxa P>0.70	0.96
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.05

D. Habitat Description

Variable	AQ00	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	23.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.24	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.30000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.40000	25.54674 ± 9.71520
Precip06_JUN (mm)	52.90000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.10000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	52.90000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.27000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.47598	0.19525 ± 0.41187
Natl-Bryoids (%)	1.48831	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.84309	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Site Assessment Report

A. Site Description

CABIN Study Name	YK-Coffee Gold Baseline-PECG
CABIN Site Code	AQ02
Sampling Date	Aug 29 2014
Know Your Watershed (KYW) Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera Ecozone Klondike Plateau Ecoregion
Coordinates (decimal degrees)	62.85318 N, 139.14000 W
Altitude	1483
Feature Name	Coffee Creek
Stream Order	

B. CABIN Assessment Results

REFERENCE MODEL SUMMARY	
Model Name	Yukon 2013
Analysis Date	December 11, 2015
Taxanomic Level	Family
Predictor Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**
Number of Reference Sites	23	97	44	108	13
Group Error Rate	34.8%	48.5%	56.8%	54.6%	38.5%
Overall Model Error Rate	50.5%				
Probability of Group Membership	53.4%	41.1%	2.0%	3.5%	0.0%
CABIN Assessment of AQ02 on Aug 29, 2014	Mildly Divergent				

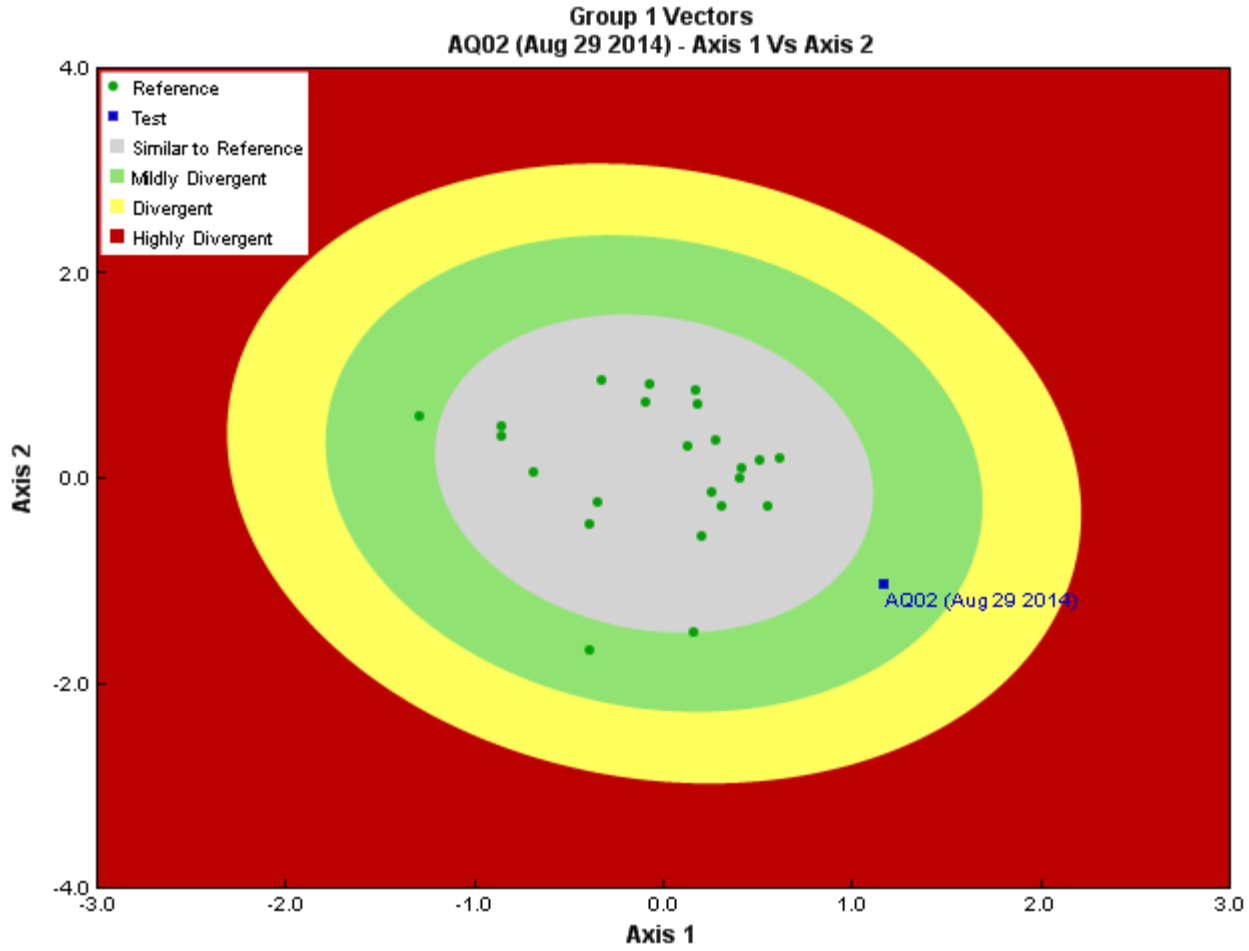


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	-
Identification Date	-
Subsampling Device	-
Proportion Subsampled	100/100

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	61	61.0
	Insecta	Diptera	Ceratopogonidae	1	1.0
			Chironomidae	169	169.0
			Empididae	48	48.0
			Simuliidae	2	2.0
			Tipulidae	1	1.0
		Ephemeroptera	Baetidae	22	22.0
			Ephemerellidae	129	129.0
			Heptageniidae	45	45.0
		Plecoptera		10	10.0
			Capniidae	1	1.0
			Chloroperlidae	30	30.0
			Nemouridae	4	4.0
			Perlodidae	38	38.0
		Trichoptera	Apataniidae	1	1.0

Community Structure Sample Data

Phylum	Class	Order	Family	Raw Count	Mean Count
			Brachycentridae	1	1.0
			Glossosomatidae	5	5.0
			Hydropsychidae	2	2.0
			Limnephilidae	15	15.0
			Total	585	585.0

Site Metrics

Metric Name	AQ02	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.96	0.6 ± 0.3

Frequency and Probability of Taxa Occurence

Reference Model Taxa	Frequency of Occurence in Reference Sites					Probability Of Occurrence at AQ02
	Group 1	Group 2	Group 3	Group 4	Group 5	
Chironomidae	91%	100%	100%	100%	100%	0.95

RIVPACS : Expected taxa P>0.50	2.65
RIVPACS : Observed taxa P>0.50	4.00
RIVPACS : O:E (p > 0.5)	1.51
RIVPACS : Expected taxa P>0.70	0.95
RIVPACS : Observed taxa P>0.70	1.00
RIVPACS : O:E (p > 0.7)	1.05

D. Habitat Description

Variable	AQ02	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	29.0	36.5 ± 24.3
Velocity-Avg (m/s)	0.47	0.42 ± 0.29
Climate		
Precip02_FEB (mm)	12.30000	27.73943 ± 9.10561
Precip03_MAR (mm)	11.40000	25.54674 ± 9.71520
Precip06_JUN (mm)	53.20000	49.78117 ± 15.10067
Precip07_JUL (mm)	67.40000	63.45366 ± 19.76560
Rainfall06_JUN (mm)	53.20000	45.78194 ± 13.48156
Temp04_APRmax (Degrees Celsius)	4.20000	-0.26448 ± 3.57165
Landcover		
Natl-BroadleafOpen (%)	0.43870	0.19525 ± 0.41187
Natl-Bryoids (%)	1.46926	0.16846 ± 0.41890
Natl-MixedwoodOpen (%)	0.62595	2.45662 ± 5.01153
Natl-WetlandHerb (%)	0.00000	0.22137 ± 0.64189

Appendix E

Fish Habitat

- **E1. Fish Habitat Data, Coffee Gold Project, 2014-2015**
- **E2. Stream Temperature Data, Coffee Gold Project, 2014-2015**

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ06, Latte Creek	Date	Aug 23/14
UTM	07V 582934 6971891		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (°C)	3.44
pH	6.53
COND (µS/cm)	6
Sp COND (µS/cm)	4
DO (mg/L)	10.54
DO % Sat.	87.1

Water Volume, Velocity, Discharge

Channel W (m)	4.33	Stage	L

Substrate and Channel Characteristics

Dom Sub. (%)	65% Boulder			Channel W (m)	4.4	3.5	5.1		
Subdom Sub. (%)	30% Cobble			Wetted W (m)	3.45	3.2	4.9		
D95 (cm)	194	D (cm)	22	Res. Pool D (m)	0.29	0.28	0.16		
Avg. Gradient	11%			Bankfull D (m)	0.68	0.58	0.7		
Pattern	SI			Morphology	SPb				
Confinement	FC			Coupling	PC				
Bars	N			Islands	N				

Riparian

LB Shape	V	RB Shape	V
Bank Texture	F C	Bank Texture	F C
Rip. Veg	S D	Rip. Veg	S D
Stage	YF	Stage	YF

In-stream Cover Total Cover (A)

Canopy Cover (%) 41-70

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	T	D	T	N	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	N	LWD Dist		NA	In-strm Veg	A M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
5	30		65		

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Trace gravel
Rearing:	Shallow, step pool moderate gradient - possible seasonal adult GR usage/migratory corridor
Overwintering:	No deep pools
Overall:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ05, Latte Creek	Date	Aug23/14
UTM	07V 584272 6971769		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (°C)	2.71
pH	6.53
COND (µS/cm)	74
Sp COND (µS/cm)	43
DO (mg/L)	10.23
DO % Sat.	82.2

Water Volume, Velocity, Discharge Stage L

Channel W (m)	3.81					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.2	0.19	0.06	1.7	0.25	0.02	0.18
0.7	0.24	0.3	2.3	0.08	0.1	AVG D (m)
1.2	0.15	0.4				0.18

Substrate and Channel Characteristics

Dom Sub. (%)	50 % Cobble			Channel W (m)	3.35	4.9	3.1	3.9
Subdom Sub. (%)	40% Boulder			Wetted W (m)	3.35	4.9	3.1	3.9
D95 (cm)	85	D (cm)	28	Res. Pool D (m)	0.17	0.18	0.32	
Avg. Gradient	7			Bankfull D (m)	0.59	0.72	1.07	

Pattern	SI	Morphology	CPc-W
Confinement	OC	Coupling	PC
Bars	N	Islands	N

Riparian

LB Shape	V	RB Shape	V
Bank Texture	F	Bank Texture	F
Rip. Veg	S	Rip. Veg	S
Stage	SHR	Stage	SHR

In-stream Cover Total Cover (M) **Canopy Cover (%)** 1-20

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	N	D	SD	T	SD	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F		LWD Dist	E	In-strm Veg	A M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
5	10	42	42	0	0

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	None to very little gravel
Rearing:	Shallow, few resting areas. May be usable for adult GR at higher flow
Overwintering:	None
Overall:	Low quality, marginal rearing potential

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffe Gold	Site Length	120m
Site	AQ04, Latte Creek	Date	Aug 25/14
UTM	07V 591817 6970662		
Crew	AM, EC		
Weather			

Water Quality

Temp (^{o}C)	3.99
pH	7.15
COND (µS/cm)	262
Sp COND (µS/cm)	158
DO (mg/L)	8.81
DO % Sat.	72.4

Water Volume, Velocity, Discharge Stage L

Channel W (m)	3					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.5	0.05	0.09	3.5	0.16	0.74	0.28
1.5	0.1	-0.03	4.5	0.28	0.01	AVG D (m)
2.5	0.18	0.57				0.15

Substrate and Channel Characteristics

Dom Sub. (%)	45% Cobble			Channel W (m)	5.9	4.9	2.6	6.9	9
Subdom Sub. (%)	45% Gravel			Wetted W (m)	4.3	4.9	2.6	4.8	1.95
D95 (cm)	61	D (cm)	25	Res. Pool D (m)	0.2	0.36	0.12		
Avg. Gradient	2%			Bankfull D (m)	0.62	0.95	0.84		
Pattern	IR			Morphology	RPc-W				
Confinement	UN			Coupling	DC				
Bars	SIDE			Islands	O				

Riparian

LB Shape	V S	RB Shape	V S
Bank Texture	F	Bank Texture	F
Rip. Veg	D	Rip. Veg	D
Stage	YF	Stage	YF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	T	T	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F	LWD Dist	E	In-strm Veg	A		

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
10	30	55			5

Habitat Quality	(Excellent, Good, Moderate, Poor, None, % gravel and deep pools)
Spawning:	Moderate-Good - GR. Large gravel areas d/s
Rearing:	Good - Side channels, pools present for GR
Overwintering:	None - no deep pools
Overall:	Lots of adult GR observed at site

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ02, mainstem Coffee Creek	Date	Aug 26/14
UTM	7V 594695 6970599		
Crew	AM, EC		
Weather	Overcast		

Water Quality

Temp (^{o}C)	6.51
pH	6.82
COND (µS/cm)	109
Sp COND (µS/cm)	71
DO (mg/L)	10.05
DO % Sat.	86.9

Water Volume, Velocity, Discharge

Stage L

Channel W (m)	17					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
2	0.3	0.59	9	0.38	0.45	0.47
4	0.36	0.49	12	0.1	0.53	AVG D (m)
6	0.4	0.42	14.5	0.18	0.31	0.29

Substrate and Channel Characteristics

Dom Sub. (%)	45% Gravel			Channel W (m)	22.5*	18.8	14		
Subdom Sub. (%)	35% Cobble			Wetted W (m)	19.4	15.3	11		
D95 (cm)	34	D (cm)	25	Res. Pool D (m)	0.25	0.4			
Avg. Gradient	2%			Bankfull D (m)	1.72	1.56			
Pattern	IM			Morphology	Rpg-W				
Confinement	OC			Coupling	PC				
Bars	SIDE DIAG			Islands	N				

Riparian

LB Shape	S	RB Shape	U
Bank Texture	F	Bank Texture	F
Rip. Veg	C D	Rip. Veg	C D
Stage	MF	Stage	MF

In-stream Cover Total Cover (A) **Canopy Cover (%)** 21-40

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	D	D	T	S	S	S	T
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F		LWD Dist	C	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
10	45	35			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Good -GR
Rearing:	Good-GR, Moderate-Good - juvenile Chinook salmon
Overwintering:	Moderate - some deep pools
Overall:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Comments	* Side channel exits 100m u/s - did not measure width
	*Some deeper pools not wadeable

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ01, mainstem Coffee Creek	Date	Aug 28/14
UTM	07V 595974 6972573		
Crew	AM, EC, RF		
Weather			

Water Quality

Temp (°C)	8.01
pH	7.12
COND (µS/cm)	105
Sp COND (µS/cm)	71
DO (mg/L)	9.89
DO % Sat.	88.7

Water Volume, Velocity, Discharge

Channel W (m)	22.1	Stage	L

Substrate and Channel Characteristics

Dom Sub. (%)	45% Gravel			Channel W (m)	24.9	19.4	17.1	26.9	
Subdom Sub. (%)	40% Cobble			Wetted W (m)	17	17.1	12.7	22.8	
D95 (cm)	38	D (cm)	23	Res. Pool D (m)	0.28	0.45	0.14		
Avg. Gradient	1.50%			Bankfull D (m)	1.4	1.8	1.22		
Pattern	ME			Morphology	RPg-W				
Confinement	UN			Coupling	DC				
Bars	SIDE DIAG			Islands	N				

Riparian

LB Shape	S	RB Shape	U V
Bank Texture	F	Bank Texture	F
Rip. Veg	M	Rip. Veg	M
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 1-20

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	D	D	T	S	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A	LWD Dist	E	In-strm Veg	A		

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
10	70	20			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Moderate to Good GR - lots of gravel, but some embedded with fines
Rearing:	Good, smaller fish. Good, CCG. Few resting pools
Overwintering:	Poor - Moderate, few deep pools
Overall:	

Features

Feature Type 1:		Feature Type 2:		Feature Type 3:	
Height/Length:		Height/Length:		Height/Length:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

No photos taken

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	NA
Site	AQ00, mainstem Coffee Creek	Date	24-Aug-14
UTM	07V 596860 6974237		
Crew	AM, EC, AT, RF		
Weather			

Water Quality

Temp (^{o}C)	8.09
pH	6.89
COND (µS/cm)	135
Sp COND (µS/cm)	91
DO (mg/L)	9.59
DO % Sat.	85.7

Water Volume, Velocity, Discharge

Stage L

Channel W (m)	19.5					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
2	0.26	0.4	10.5	0.52	0.76	0.66
4.5	0.4	0.64	13.5	0.5	0.85	AVG D (m)
7.5	0.41	0.73	16.5	0.86	0.56	0.49

Substrate and Channel Characteristics

Dom Sub. (%)	60% Gravel			Channel W (m)	14.1*	15.7		
Subdom Sub. (%)	20% Fines, 20% Cobble			Wetted W (m)	13.45*	15.6		
D95 (cm)	115	D (cm)	27	Res. Pool D (m)	Deep pools - can't measure			
Avg. Gradient	1%			Bankfull D (m)				
Pattern	IM			Morphology	PRg-W			
Confinement	OC			Coupling	NA			
Bars	SIDE			Islands	N			

Riparian

LB Shape	U V	RB Shape	S
Bank Texture	F	Bank Texture	F
Rip. Veg	C D	Rip. Veg	C D
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 1-20

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	T	S	D	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A		LWD Dist	E	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
15	50	35			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Good to Excellent - GR
Rearing:	Excellent, most species
Overwintering:	Good, lots of deep pools
Overall:	

Photo Documentation:

Upstream

Downstream

Comments	* Side channel measurements, not included

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ21, Halfway Creek	Date	Aug 23/14
UTM	07V 582125 6974262		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (^{o}C)	2.84
pH	6.51
COND (µS/cm)	NA
Sp COND (µS/cm)	NA
DO (mg/L)	10.84
DO % Sat.	88.3

Water Volume, Velocity, Discharge Stage L

Channel W (m)	2.47

Substrate and Channel Characteristics

Dom Sub. (%)	50% Boulder			Channel W (m)	3.9	2	1.9	2.08	
Subdom Sub. (%)	40% Cobble			Wetted W (m)	2.6	2	1.9	1.9	
D95 (cm)	66	D (cm)	14	Res. Pool D (m)	0.16	0.11	0.17		
Avg. Gradient	10%			Bankfull D (m)	0.41	0.45	0.44		
Pattern	SI			Morphology	Cpb				
Confinement	OC			Coupling	DC				
Bars	N			Islands	N				

Riparian

LB Shape	U	RB Shape	U
Bank Texture	F	Bank Texture	F
Rip. Veg	S C	Rip. Veg	S C
Stage	PS	Stage	PS

In-stream Cover Total Cover (M) **Canopy Cover (%) 1-20**

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	N	D	S	N	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	N	LWD Dist	NA	In-strm Veg	A M		

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
10	40	10	40		

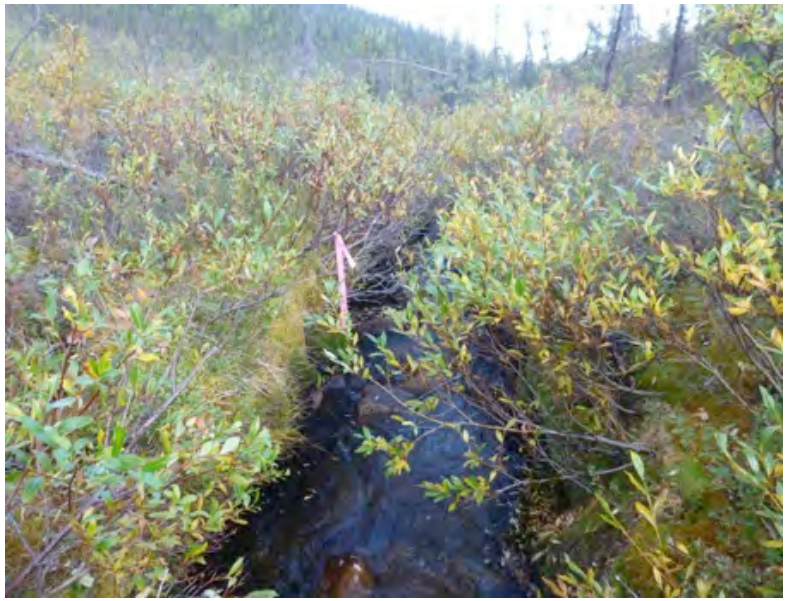
Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	No gravel
Rearing:	Marginal - small, shallow, lack of resting areas
Overwintering:	No deep pools
Overall:	

Photo Documentation:

Upstream

Downstream



Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ20, Halfway Creek	Date	Aug 25/14
UTM	07V 582125 6974262		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (^{o}C)	4.8
pH	7.16
COND (µS/cm)	179
Sp COND (µS/cm)	110
DO (mg/L)	9.72
DO % Sat.	81.2

Water Volume, Velocity, Discharge Stage L

Channel W (m)						
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.5	0.2	0.26	2	0.15	0.02	0.07
1	0.21	-0.02				AVG D (m)
1.5	0.14	0				0.18

Substrate and Channel Characteristics

Dom Sub. (%)	45% Cobble			Channel W (m)	3.4	4.75	3.95		
Subdom Sub. (%)	35% Gravel			Wetted W (m)	2.4	4.1	2.2		
D95 (cm)	43	D (cm)	15	Res. Pool D (m)	0.14	0.29	0.17		
Avg. Gradient	2%			Bankfull D (m)	0.89	0.6	0.81		
Pattern	IM			Morphology	RPc-W				
Confinement	OC			Coupling	PC				
Bars	SIDE			Islands	N				

Riparian

LB Shape	U	RB Shape	U
Bank Texture	F	Bank Texture	F
Rip. Veg	D	Rip. Veg	D
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	S	S	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F		LWD Dist	E	In-strm Veg	A M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
5	50	45			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Poor - may be small patches of gravel
Rearing:	Poor-Moderate GR - shallow, not many pools
Overwintering:	Poor
Overall:	

Photo Documentation:

Upstream

Downstream

Comments	1 deep pool, 1 GR captured

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ31, YR24	Date	Aug 23/14
UTM	07V 585748 6976166		
Crew	AM, EC		
Weather	Cloudy		

Water Quality

Temp (^{o}C)	2.66
pH	6.5
COND (µS/cm)	NA
Sp COND (µS/cm)	NA
DO (mg/L)	11.9
DO % Sat.	95.3

Water Volume, Velocity, Discharge Stage L

Channel W (m)	1.87

Substrate and Channel Characteristics

Dom Sub. (%)	40% Boulder			Channel W (m)	1.65	1.75	2.2		
Subdom Sub. (%)	40% Cobble			Wetted W (m)	1.3	1.25	1.6		
D95 (cm)	66	D (cm)	19	Res. Pool D (m)	0.09	0.07	0.14		
Avg. Gradient	11%			Bankfull D (m)	0.35	0.46	0.46		
Pattern	SI			Morphology	Cpb				
Confinement	FC			Coupling	PC				
Bars	N			Islands	N				

Riparian

LB Shape	V	RB Shape	V
Bank Texture	F	Bank Texture	F
Rip. Veg	D	Rip. Veg	D
Stage	YF	Stage	YF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	T	D	T	N	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F	LWD Dist	E	In-strm Veg	A M		

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
15	35	15	35		

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Some large gravels in small patches
Rearing:	Lack of resting spots, shallow, moderate gradient sections
Overwintering:	No deep pools
Overall:	

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ30, YR24	Date	Aug 25/14
UTM	07V 589691 6979174		
Crew	AM, EC		
Weather			

Water Quality

Temp (°C)	4.38
pH	6.98
COND (µS/cm)	113
Sp COND (µS/cm)	69
DO (mg/L)	9.33
DO % Sat.	74.1

Water Volume, Velocity, Discharge

Stage L

Channel W (m)	3.8					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.4	0.12	0.16				0.10
0.7	0.123	0.15				AVG D (m)
1.1	0.09	-0.02				0.11

Substrate and Channel Characteristics

Dom Sub. (%)	50% Cobble			Channel W (m)	3.4	5.1	4.1	
Subdom Sub. (%)	35% Boulder			Wetted W (m)	2.4	2.6	2.2	
D95 (cm)	160	D (cm)	23	Res. Pool D (m)	0.09	0.09	0.1	
Avg. Gradient	8%			Bankfull D (m)	0.57	0.34	0.61	

Pattern	IM	Morphology	CPc-W
Confinement	FC	Coupling	PC
Bars	SIDE	Islands	N

Riparian

LB Shape	U	RB Shape	U
Bank Texture	F	Bank Texture	F
Rip. Veg	C	Rip. Veg	C
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	S	D	S	N	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A		LWD Dist	C	In-strm Veg	A M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
5	20	35	40		

Habitat Quality	(Excellent, Good, Moderate, Poor, None, % gravel and deep pools)
Spawning:	Poor GR - no gravel pockets
Rearing:	Poor - GR and others - no deep areas, moderate gradient, shallow water
Overwintering:	None
Overall:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Comments	- a lot of trees in the creek, some unstable slopes, erosion, irregular bed materials
	- small shallow descent at river mouth may hinder seasonal passage for some species
	- matted green algae noted at mouth of creek

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ13, Kona Tributary, Independence Creek Watershed	Date	Aug 23/14
UTM	07V 578443 6975427		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (°C)	2.83
pH	7.22
COND (µS/cm)	106
Sp COND (µS/cm)	62
DO (mg/L)	9.28
DO % Sat.	74.3

Water Volume, Velocity, Discharge Stage L

Channel W (m)	2.55					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
1	0.12	-0.08				0.06
1.5	0.17	0.26				AVG D (m)
1.9	0.14	0.01				0.14

Substrate and Channel Characteristics

Dom Sub. (%)	70% Boulder			Channel W (m)	2.6	2.2	1.9		
Subdom Sub. (%)	15% cobble			Wetted W (m)	2.4	2.2	1.5		
D95 (cm)	104	D (cm)	24	Res. Pool D (m)	0.09	0.08	0.09		
Avg. Gradient	8%			Bankfull D (m)	0.46	0.74	1.05		
Pattern	SI			Morph.	SPb				
Confinement	RC			Coupling	PC				
Bars	N			Islands	O				

Riparian

LB Shape	V	RB Shape	V
Bank Texture	F	Bank Texture	F
Rip. Veg	S	Rip. Veg	S
Stage	PS	Stage	PS

In-stream Cover Total Cover (A) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	S	D	T	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F		LWD Dist	E	In-strm Veg	A M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
70			30		

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Very little habitat potential - poor
Rearing:	Poor for most species, marginal seasonally for GR, small, shallow
Overwintering:	None, no deep pools
Overall:	

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ12, Kona Tributary, Independence Creek Watershed	Date	Aug 23/14
UTM	07V 575282 6979605		
Crew	AM, EC		
Weather	Sunny		

Water Quality

Temp (°C)	4.31
pH	7.07
COND (µS/cm)	101
Sp COND (µS/cm)	61
DO (mg/L)	10.8
DO % Sat.	87

Water Volume, Velocity, Discharge Stage L

Channel W (m)	3.05

Substrate and Channel Characteristics

Dom Sub. (%)	70% Gravel			Channel W (m)	3.15	3.2	2.8		
Subdom Sub. (%)	10% Fines			Wetted W (m)	2.5	2.55	2.05		
D95 (cm)	27	D (cm)	18	Res. Pool D (m)	0.06	0.09	0.12		
Avg. Gradient	1%			Bankfull D (m)	0.79	0.6	1.02		
Pattern	SI			Morphology	RPg-W				
Confinement	UN			Coupling	DC				
Bars	SIDE			Islands	N				

Riparian

LB Shape	V	RB Shape	V
Bank Texture	F	Bank Texture	F
Rip. Veg	S C D	Rip. Veg	S C D
Stage	YF	Stage	YF

In-stream Cover Total Cover (A) **Canopy Cover (%)** 71-90

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	T	D	N	T	T	D	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A		LWD Dist	C	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
5	70	25			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Good to Excellent GR
Rearing:	Moderate - Poor - very shallow, lack of pool habitat. Low gradient, good cover
Overwintering:	None
Overall:	

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	150m
Site	AQ11, mainstem Independence Creek	Date	Aug 24/14
UTM	07V 575876 6980006		
Crew	AM, EC		
Weather			

Water Quality

Temp (°C)	6.77
pH	6.94
COND (µS/cm)	122
Sp COND (µS/cm)	81
DO (mg/L)	9.91
DO % Sat.	86.6

Water Volume, Velocity, Discharge Stage L

Channel W (m)	23.1					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
1.5	0.13	0.27	6.5	0.27	0.48	0.27
3.5	0.2	0.15	8.5	0.12	0.05	AVG D (m)
5	0.26	0.43	11	0.1	0.22	0.18

Substrate and Channel Characteristics

Dom Sub. (%)	40% Gravel			Channel W (m)	15.5	14.9	12.2	50.3
Subdom Sub. (%)	30% Cobble			Wetted W (m)	7.8	8	10.9	8.7
D95 (cm)	58	D (cm)	25	Res. Pool D (m)	0.32	No pools to measure		
Avg. Gradient	2			Bankfull D (m)	1.8			
Pattern	ME			Morphology	RPg-W			
Confinement	UN			Coupling	DC			
Bars	SIDE			Islands	N			

Riparian

LB Shape	S	RB Shape	V
Bank Texture	F	Bank Texture	F
Rip. Veg	C	Rip. Veg	C
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 21-40

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	S	S	S	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	F		LWD Dist	C	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
10	45	45			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Good - GR. Some gravelly riffle sections
Rearing:	Good - GR, Excellent- CCG
Overwintering:	Poor, although some deep pools just downstream of site
Overall:	

Fish Sampling: Yes (*) No ( ) - Single pass EF

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ10, mainstem Independence Creek	Date	Aug 24/14
UTM	07V 579393 6983200		
Crew	AM, EC		
Weather	80% CC, 10 C		

Water Quality

Temp (°C)	5.71
pH	6.71
COND (µS/cm)	113
Sp COND (µS/cm)	72
DO (mg/L)	9.02
DO % Sat.	74.1

Water Volume, Velocity, Discharge Stage L

Channel W (m)	10.3					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
1.5	0.26	0.68	6	0.14	0.28	0.43
3	0.22	0.57	7.5	0.13	0.23	AVG D (m)
4.5	0.13	0.4				0.18

Substrate and Channel Characteristics

Dom Sub. (%)	50% Gravel			Channel W (m)	11.3	8.7	11.44	17.4
Subdom Sub. (%)	30% Cobble			Wetted W (m)	4.7	6.2	5.2	6
D95 (cm)	39	D (cm)	23	Res. Pool D (m)	30.5	0.5	0.13	
Avg. Gradient	2%			Bankfull D (m)	1.34	1.28	1.48	

Pattern	ME	Morphology	Rpg-W
Confinement	OC	Coupling	PC
Bars	SIDE	Islands	N

Riparian

LB Shape	U S	RB Shape	U S
Bank Texture	F	Bank Texture	F
Rip. Veg	C D	Rip. Veg	C D
Stage	MF	Stage	MF

In-stream Cover Total Cover (A) **Canopy Cover (%)** 21-40

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	T	S	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A	A	LWD Dist	E	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
15	45	40			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Some large gravel, good depth for GR = moderate
Rearing:	Excellent sculpin, good-moderate juvenile chinook salmon, good GR
Overwintering:	Only 1 deep pool in site, several in logjam area downstream, moderate potential
Overall:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Comments	
10 Gee traps set	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQREF1, Isaac Creek	Date	Aug 28/14
UTM	07V 626796 6968817		
Crew	AM, EC, RF		
Weather			

Water Volume, Velocity, Discharge Stage L

Channel W (m)	11.6					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.9	0.12	0.3	6	0.16	0.4	0.34
4	0.14	0.42	7	0.14	0.23	AVG D (m)
5.5	0.18	0.36				0.28

Substrate and Channel Characteristics

Dom Sub. (%)	40% Gravel			Channel W (m)	10.3	9.6	7.6	11.5	
Subdom Sub. (%)	40% Fines			Wetted W (m)	8.7	6.6	6.1	3.6	
D95 (cm)	21	D (cm)	14	Res. Pool D (m)	0.26	0.36	0.34		
Avg. Gradient	1%			Bankfull D (m)	1.27	0.98	1.47		
Pattern	TM			Morphology	RPg-W				
Confinement	UN			Coupling	DC				
Bars	SIDE MID			Islands	N				

Riparian

LB Shape	S	RB Shape	U
Bank Texture	F	Bank Texture	F
Rip. Veg	S	Rip. Veg	C
Stage	SHR	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 1-20

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	D	S	T	S	T	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	A		LWD Dist	E	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
40	20	40			

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Moderate - GR - some gravel bars
Rearing:	Moderate - cover decent, some pools, undercut banks, fines dominate some areas
Overwintering:	Poor - few deep pools
Overall:	

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQ04.5	Date	20-Jun-15
UTM	07V 584792 6971697		
Crew	AM, IM, CW, AT		
Weather	NR		

Water Quality

Temp (°C)	3.1
pH	7.3
COND (µS/cm)	208
Sp COND (µS/cm)	356
DO (mg/L)	11.64
DO % Sat.	94.8

Water Volume, Velocity, Discharge

Stage L - M (June), H (July)

Channel W (m)	2.1 (Note measurements taken on July 30, 2015 after high rain flow)					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
0.3	0.5	0.02	1.2	0.7	0.89	0.65
0.6	0.44	1.22	1.5	0.61	-0.01	AVG D (m)
0.9	0.39	1.49	1.9	0.52	0.29	0.53

Substrate and Channel Characteristics

Dom Sub. (%)	40% Boulder			Channel W (m)	2.9	2.5	3.2	2.7	
Subdom Sub. (%)	25% Cobble			Wetted W (m)	2.5	2.5	1.9	2.7	
D95 (cm)	100	D (cm)	19	Res. Pool D (m)	0.23	0.27	0.31		
Avg. Gradient	3%			Bankfull D (m)	0.7	0.9	1.01		
Pattern	SI				Morphology	RPb			
Confinement	OC				Coupling	PC			
Bars	N				Islands	N			

Riparian

LB Shape	S	RB Shape	S
Bank Texture	F	Bank Texture	F
Rip. Veg	D	Rip. Veg	D
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%) 71-90**

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	D	T	D	S	N	S	N
Location (P, S, O, A)	P	P	P	P	P	P	P
Func. LWD	N	LWD Dist		n/a	In-strm Veg	M	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
55	5	35	5	0	0

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Poor
Rearing:	Poor
Overwintering:	None
Overall:	Low fish habitat quality overall

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

FISH HABITAT ASSESSMENT

Project	Coffee Gold	Site Length	100m
Site	AQREF2	Date	31-Jul-15
UTM	07V 569529 6990874		
Crew	EC, IM, CW		
Weather	NR		

Water Quality

Temp (°C)	5.1
pH	7.58
COND (µS/cm)	NR
Sp COND (µS/cm)	147
DO (mg/L)	11.73
DO % Sat.	NR

Water Volume, Velocity, Discharge

Stage H

Channel W (m)	6.80					
Distance (m)	Depth (m)	V (m/s)	Distance (m)	Depth (m)	V (m/s)	AVG V (m/s)
1	0.45	0.66	4	0.36	1.08	0.93
2	0.41	1.13	5	0.35	0.81	AVG D (m)
3	0.41	1.12	6	0.25	0.76	0.37

Substrate and Channel Characteristics

Dom Sub. (%)	70% Cobble			Channel W (m)	NR			
Subdom Sub. (%)	20% Sand			Wetted W (m)	NR			
D95 (cm)	20	D (cm)	20	Res. Pool D (m)	NR			
Avg. Gradient	1%			Bankfull D (m)	NR			
Pattern	ME			Morphology	RPg-w			
Confinement	OC			Coupling	DC			
Bars	SIDE			Islands	N			

Riparian

LB Shape	U	RB Shape	S
Bank Texture	F	Bank Texture	F
Rip. Veg	M	Rip. Veg	M
Stage	MF	Stage	MF

In-stream Cover Total Cover (M) **Canopy Cover (%)** 1-25

Type	SWD	LWD	B	U	DP	OV	IV
Amount (D S T N)	S	D	N	S	S	T	N
Location (P, S, O, A)	P	P		P	P	P	
Func. LWD	Y		LWD Dist	E	In-strm Veg	A	

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Habitat Type (%)

Pool	Run	Riffle	Cascade	Other	Side Channel (%)
20	40	40	0	0	**0**

Habitat Quality (Excellent, Good, Moderate, Poor, None, % gravel and deep pools)

Spawning:	Good
Rearing:	Excellent
Overwintering:	Moderate
Overall:	Good

Fish Sampling: Yes (*) No ( )

Photo Documentation:

Upstream

Downstream

Appendix E1. Fish Habitat Assessment Data, Coffee Gold Project, 2014-2015

Legend

Section	Abbreviation/ Acronym	Definition	Section	Abbreviation/ Acronym	Definition
Substrate and Pattern	TM	Tortuous Meanders	In-stream Cover		
	ME	Meandering	Type	SWD	Small Woody Debris
	IM	Irregular Meanders		LWD	Large Woody Debris
	IR	Irregular		B	Boulder
	SI	Sinuous		U	Undercut Bank
	ST	Straight		DP	Deep Pool
Confinement	EN	Entrenched		OV	Overhanging Vegetation
	CO	Confined		IV	In-stream Vegetation
	FC	Frequently confined	Amount	D	Dominant
	OC	Occasionally Confined		S	Sub-Dominant
	UN	Unconfined		T	Trace
Morphology	RP	Riffle-pool		N	None
	SP	Step-pool	Location	P	Primary
	CP	Cascade-pool		S	Secondary
				O	Off Channel
Coupling	DC	Decoupled		A	All
	PC	Partially coupled	Func. LWD	N	None
	Co	Coupled		F	Few
Islands	N	None		A	Abundant
	OI	Occasional	LWD Dist	LWD Dist	Large Woody Debris Distribution
	FS	Frequent/Split channel		C	Clumped
	AN	Anastomosing		E	Even
Riparian			In-strm Veg	N	None
Bank Shape	U	Undercut		A	Algae
	V	V-shaped		M	Moss
	S	Sloping		V	Vascular Plant
	O	Overhanging	Fish Species	GR	Arctic grayling
Bank Texture	F	Fines		CCG	slimy sculpin
	G	Gravel	Water Volume, Velocity, Discharge		
	CB	Cobble/Boulder		L	Low
	R	Rock		Res. Pool D	Residual pool depth
Rip. Veg		Riparian Vegetation			
	N	None			
	G	Grass			
	S	Shrub			
	C	coniferous			
	D	Deciduous			
	M	Mixed			
	W	Wetland			
Stage	INIT	Initial			
	SHR	Shrub			
	PS	Pole Sapling			
	YF	Young Forest			
	MF	Mature Forest			

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Coffee Creek (T1)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
01/06/2014	6.31	3.80	5.37
02/06/2014	6.84	3.51	5.15
03/06/2014	6.79	2.82	4.85
04/06/2014	6.99	2.77	4.98
05/06/2014	7.02	3.80	5.44
06/06/2014	8.12	4.06	5.91
07/06/2014	9.46	4.45	6.72
08/06/2014	8.44	4.77	6.54
09/06/2014	10.30	4.90	7.25
10/06/2014	9.21	5.62	7.34
11/06/2014	8.97	5.46	7.08
12/06/2014	9.24	6.20	7.67
13/06/2014	9.19	5.36	7.17
14/06/2014	8.47	6.10	7.29
15/06/2014	9.26	5.92	7.46
16/06/2014	9.78	5.82	7.61
17/06/2014	9.29	6.48	7.31
18/06/2014	8.79	5.72	7.10
19/06/2014	9.06	5.67	7.30
20/06/2014	8.99	5.36	7.20
21/06/2014	9.53	6.28	7.63
22/06/2014	8.99	5.62	7.21
23/06/2014	9.39	5.77	7.65
24/06/2014	8.37	6.41	7.43
25/06/2014	8.34	6.46	7.24
26/06/2014	7.32	6.08	6.57
27/06/2014	7.37	3.85	5.38
29/07/2014	7.67	5.75	6.67
30/07/2014	7.67	5.08	6.27
31/07/2014	8.77	4.61	6.48
01/08/2014	9.21	6.05	7.57
02/08/2014	11.01	7.49	8.86
03/08/2014	10.83	7.32	8.99
04/08/2014	10.86	8.37	9.52
05/08/2014	10.00	7.67	8.80
06/08/2014	9.78	7.92	8.84
07/08/2014	9.04	7.42	8.24

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Coffee Creek (T1)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
08/08/2014	8.22	5.46	6.95
09/08/2014	8.52	5.80	7.16
10/08/2014	9.21	6.33	7.82
11/08/2014	9.66	7.37	8.54
12/08/2014	10.52	7.95	9.11
13/08/2014	9.78	7.32	8.62
14/08/2014	10.00	7.42	8.62
15/08/2014	9.51	7.59	8.57
16/08/2014	9.19	7.07	8.16
17/08/2014	9.14	6.94	8.04
18/08/2014	8.52	7.49	8.06
19/08/2014	9.98	7.34	8.37
20/08/2014	10.27	7.12	8.47
21/08/2014	9.78	6.46	7.99
22/08/2014	9.81	7.04	8.27
23/08/2014	9.11	6.89	8.04
24/08/2014	8.47	6.74	7.69
25/08/2014	8.82	7.12	7.96
26/08/2014	8.17	6.91	7.51
27/08/2014	8.64	5.69	7.10
28/08/2014	8.30	6.13	7.32
29/08/2014	8.67	6.28	7.47
30/08/2014	8.22	7.02	7.62
31/08/2014	6.97	5.26	5.70
01/09/2014	6.48	3.80	5.06
02/09/2014	5.80	4.01	4.99
03/09/2014	6.54	4.92	5.68
04/09/2014	5.64	3.33	4.54
05/09/2014	5.64	4.82	5.25
06/09/2014	5.26	4.04	4.51
07/09/2014	4.87	3.14	3.86
08/09/2014	4.43	1.81	3.14
09/09/2014	4.22	2.07	3.21
10/09/2014	5.41	3.49	4.33
11/09/2014	6.61	4.51	5.41
12/09/2014	5.85	4.17	5.04
13/09/2014	6.84	5.10	5.91

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Coffee Creek (T1)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
14/09/2014	7.90	5.75	6.67
15/09/2014	7.09	5.02	6.16
16/09/2014	7.72	5.82	6.58
17/09/2014	6.31	3.83	4.81
18/09/2014	5.26	3.22	4.22
19/09/2014	6.00	3.70	4.66
20/09/2014	5.59	4.12	4.88
21/09/2014	5.02	3.85	4.55
22/09/2014	5.00	4.14	4.73
23/09/2014	4.27	2.96	3.59
24/09/2014	3.99	2.66	3.25
25/09/2014	2.85	1.29	2.20
26/09/2014	2.69	0.61	1.68
27/09/2014	3.14	2.29	2.69
28/09/2014	3.80	3.14	3.38
29/09/2014	3.51	2.48	2.94
30/09/2014	2.82	1.97	2.36
01/10/2014	2.16	0.80	1.55
02/10/2014	1.99	0.27	1.19
03/10/2014	2.02	1.10	1.47
04/10/2014	2.53	1.48	1.90
05/10/2014	2.32	1.15	1.72
06/10/2014	2.13	1.15	1.61

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
01/06/2014	3.91	1.21	2.72
02/06/2014	3.38	1.21	2.33
03/06/2014	3.30	0.91	1.95
04/06/2014	4.04	0.88	2.16
05/06/2014	4.38	1.59	2.66
06/06/2014	4.79	1.81	3.04
07/06/2014	4.92	1.75	3.14
08/06/2014	4.27	2.21	3.10
09/06/2014	5.51	2.32	3.44
10/06/2014	4.84	2.21	3.30
11/06/2014	4.61	2.02	3.06
12/06/2014	4.64	2.66	3.49
13/06/2014	4.84	2.16	3.33
14/06/2014	4.64	2.61	3.48
15/06/2014	4.58	2.58	3.42
16/06/2014	5.92	2.10	3.70
17/06/2014	4.17	2.88	3.51
18/06/2014	4.58	2.48	3.43
19/06/2014	5.31	2.26	3.46
20/06/2014	4.74	1.99	3.18
21/06/2014	5.23	2.80	3.50
22/06/2014	4.56	2.16	3.42
23/06/2014	5.39	2.42	3.66
24/06/2014	4.09	2.88	3.52
25/06/2014	4.64	3.14	3.47
26/06/2014	4.61	2.98	3.67
27/06/2014	4.92	2.42	3.67
28/06/2014	5.77	2.66	4.18
29/06/2014	6.15	3.35	4.57
30/06/2014	5.41	4.09	4.60
01/07/2014	5.98	3.99	4.94
02/07/2014	5.02	2.77	4.08
03/07/2014	6.61	3.62	4.86
04/07/2014	5.85	3.64	4.76
05/07/2014	5.95	4.04	4.85
06/07/2014	5.59	4.09	4.79
07/07/2014	5.95	3.96	4.87

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
08/07/2014	6.10	4.04	4.76
09/07/2014	5.49	3.56	4.43
10/07/2014	6.31	3.49	4.84
11/07/2014	6.74	4.19	5.34
12/07/2014	6.15	4.51	5.39
13/07/2014	6.51	4.32	5.33
14/07/2014	6.23	3.56	4.95
15/07/2014	5.90	3.85	4.80
16/07/2014	5.44	3.99	4.71
17/07/2014	5.77	4.14	4.87
18/07/2014	6.13	4.14	4.95
19/07/2014	6.36	4.06	5.03
20/07/2014	4.90	4.35	4.61
21/07/2014	7.17	4.30	5.43
22/07/2014	6.66	3.80	5.23
23/07/2014	6.15	4.45	5.30
24/07/2014	5.82	4.64	5.24
25/07/2014	5.90	4.61	5.16
26/07/2014	6.03	4.45	5.16
27/07/2014	6.18	4.56	5.21
28/07/2014	6.36	4.82	5.42
29/07/2014	5.23	4.25	4.67
30/07/2014	5.39	3.85	4.52
31/07/2014	6.03	2.98	4.38
01/08/2014	6.41	3.56	4.90
02/08/2014	6.43	4.56	5.40
03/08/2014	6.51	4.12	5.25
04/08/2014	6.66	4.66	5.41
05/08/2014	5.87	4.40	5.11
06/08/2014	5.64	4.32	4.94
07/08/2014	5.41	4.17	4.65
08/08/2014	5.54	2.96	4.27
09/08/2014	5.67	3.30	4.47
10/08/2014	5.90	3.49	4.74
11/08/2014	6.20	4.17	5.13
12/08/2014	6.54	4.51	5.36
13/08/2014	5.85	3.96	4.90

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
14/08/2014	5.95	3.83	4.90
15/08/2014	5.87	4.12	4.93
16/08/2014	5.77	3.93	4.82
17/08/2014	5.57	3.93	4.70
18/08/2014	5.57	4.40	4.91
19/08/2014	5.69	4.35	4.95
20/08/2014	5.80	4.12	4.90
21/08/2014	5.39	3.46	4.51
22/08/2014	5.64	4.01	4.79
23/08/2014	5.21	3.64	4.52
24/08/2014	5.39	3.91	4.64
25/08/2014	5.54	4.01	4.74
26/08/2014	5.10	4.17	4.65
27/08/2014	5.49	3.51	4.51
28/08/2014	5.23	3.67	4.48
29/08/2014	5.41	3.62	4.48
30/08/2014	5.00	4.27	4.64
31/08/2014	4.56	3.59	4.03
01/09/2014	4.45	2.66	3.49
02/09/2014	4.27	2.66	3.47
03/09/2014	4.25	3.27	3.71
04/09/2014	3.93	1.97	2.93
05/09/2014	3.88	3.17	3.49
06/09/2014	3.46	2.69	2.99
07/09/2014	3.22	2.18	2.60
08/09/2014	3.14	1.13	2.05
09/09/2014	3.14	1.15	2.12
10/09/2014	3.85	2.18	2.91
11/09/2014	4.30	2.69	3.39
12/09/2014	4.01	2.37	3.21
13/09/2014	4.64	3.27	3.88
14/09/2014	4.87	3.51	4.12
15/09/2014	4.56	2.98	3.83
16/09/2014	4.66	3.54	4.05
17/09/2014	3.80	2.10	2.98
18/09/2014	3.43	1.72	2.63
19/09/2014	3.85	2.24	3.03

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
20/09/2014	3.93	2.50	3.15
21/09/2014	3.59	2.21	2.90
22/09/2014	3.38	2.64	3.10
23/09/2014	2.74	1.70	2.21
24/09/2014	2.37	1.51	1.87
25/09/2014	1.83	0.50	1.14
26/09/2014	1.75	0.14	0.93
27/09/2014	2.16	1.56	1.86
28/09/2014	2.61	1.99	2.21
29/09/2014	2.45	1.67	2.04
30/09/2014	1.89	1.21	1.58
01/10/2014	1.83	0.33	1.03
02/10/2014	1.29	0.11	0.70
03/10/2014	1.62	0.99	1.19
04/10/2014	1.48	0.99	1.14
05/10/2014	1.53	0.50	1.03
06/10/2014	1.37	0.77	1.03
07/10/2014	1.13	0.30	0.74
08/10/2014	1.02	0.08	0.56
09/10/2014	0.63	0.00	0.28
10/10/2014	1.10	0.44	0.69
11/10/2014	1.48	0.61	1.03
12/10/2014	1.48	1.02	1.20
13/10/2014	1.62	0.99	1.22
14/10/2014	1.48	1.10	1.23
15/10/2014	1.56	0.85	1.17
16/10/2014	1.34	0.66	1.06
17/10/2014	1.04	0.27	0.68
18/10/2014	0.85	0.41	0.66
19/10/2014	1.21	0.74	0.94
20/10/2014	1.34	0.83	1.05
21/10/2014	1.26	0.72	1.02
22/10/2014	1.34	1.07	1.17
23/10/2014	1.21	1.02	1.11
24/10/2014	1.15	0.83	0.96
25/10/2014	0.93	0.66	0.79
26/10/2014	0.74	0.22	0.52

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
27/10/2014	0.55	0.11	0.31
28/10/2014	0.14	-0.20	0.01
29/10/2014	0.16	0.00	0.08
30/10/2014	0.27	0.02	0.12
31/10/2014	0.27	0.00	0.12
01/05/2015	0.11	-0.03	0.01
02/05/2015	0.38	-0.06	0.08
03/05/2015	0.58	-0.06	0.09
04/05/2015	0.77	-0.06	0.12
05/05/2015	0.99	-0.03	0.23
06/05/2015	1.43	-0.06	0.42
07/05/2015	1.32	-0.03	0.32
08/05/2015	1.18	-0.03	0.39
09/05/2015	0.96	0.02	0.35
10/05/2015	0.77	-0.03	0.26
11/05/2015	0.69	-0.03	0.23
12/05/2015	0.85	-0.03	0.27
13/05/2015	0.93	-0.03	0.32
14/05/2015	0.85	-0.03	0.33
15/05/2015	1.13	0.00	0.44
16/05/2015	1.53	0.00	0.59
17/05/2015	2.07	0.02	0.79
18/05/2015	2.61	-0.03	1.05
19/05/2015	3.30	0.05	1.30
20/05/2015	3.51	0.05	1.48
21/05/2015	4.77	0.16	2.07
22/05/2015	4.84	0.63	2.56
23/05/2015	4.61	1.40	2.94
24/05/2015	3.88	1.51	2.79
25/05/2015	4.95	1.75	3.20
26/05/2015	3.93	1.72	2.85
27/05/2015	4.74	2.50	3.43
28/05/2015	3.49	0.50	1.84
29/05/2015	4.04	1.99	2.98
30/05/2015	5.26	2.61	3.83
31/05/2015	4.77	2.34	3.48
01/06/2015	3.49	2.02	2.80

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
02/06/2015	3.51	1.97	2.53
03/06/2015	3.72	1.91	2.64
04/06/2015	4.35	1.91	3.04
05/06/2015	5.21	2.48	3.64
06/06/2015	4.14	1.78	3.00
07/06/2015	3.78	1.67	2.60
08/06/2015	4.04	1.86	2.92
09/06/2015	4.48	1.72	3.07
10/06/2015	3.72	2.48	2.95
11/06/2015	3.83	2.07	2.89
12/06/2015	3.91	2.10	2.96
13/06/2015	4.48	1.86	3.06
14/06/2015	4.69	1.70	3.13
15/06/2015	4.95	2.07	3.29
16/06/2015	4.51	2.61	3.52
17/06/2015	5.13	2.58	3.62
18/06/2015	5.54	2.56	3.57
19/06/2015	5.80	2.24	3.48
20/06/2015	5.02	2.53	3.60
21/06/2015	4.40	2.93	3.58
22/06/2015	5.67	3.14	4.03
23/06/2015	5.23	3.75	4.24
24/06/2015	5.39	3.27	3.99
25/06/2015	6.38	3.62	5.15
26/06/2015	5.92	3.51	4.91
27/06/2015	4.17	2.80	3.47
28/06/2015	5.21	2.90	3.89
29/06/2015	5.80	2.88	4.20
30/06/2015	5.31	3.54	4.45
01/07/2015	4.64	3.99	4.31
02/07/2015	4.14	3.17	3.61
03/07/2015	4.95	3.35	3.99
04/07/2015	5.80	2.77	4.18
05/07/2015	5.41	3.83	4.54
06/07/2015	6.81	3.59	5.11
07/07/2015	5.67	4.51	5.11
08/07/2015	5.87	4.32	5.06

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Latte Creek (T2)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
09/07/2015	6.54	4.25	4.94
10/07/2015	6.31	3.78	4.83
11/07/2015	5.90	4.30	4.97
12/07/2015	5.15	4.22	4.67
13/07/2015	5.28	3.56	4.25
14/07/2015	5.49	3.51	4.25
15/07/2015	5.59	2.66	4.02
16/07/2015	6.54	3.49	4.62
30/07/2015	5.51	3.54	4.32
31/07/2015	5.36	3.35	4.26
01/08/2015	5.39	3.04	4.16
02/08/2015	4.64	3.70	4.11
03/08/2015	5.87	2.69	4.16
04/08/2015	6.61	3.17	4.78
05/08/2015	7.29	3.80	5.47
06/08/2015	6.56	4.90	5.82
07/08/2015	6.15	3.38	4.76
08/08/2015	6.91	3.27	4.83
20/08/2015	4.84	3.49	4.17
21/08/2015	4.74	2.16	3.39
22/08/2015	4.30	2.88	3.59
23/08/2015	4.61	3.14	3.86
24/08/2015	4.56	3.51	3.98
25/08/2015	5.23	2.58	3.85
26/08/2015	4.51	3.59	4.06
27/08/2015	4.17	3.64	3.86
28/08/2015	3.51	2.50	2.85
29/08/2015	3.01	1.97	2.46
30/08/2015	3.06	1.78	2.37
31/08/2015	3.78	2.10	2.79
01/09/2015	3.56	2.24	2.83
02/09/2015	3.78	2.05	2.89
03/09/2015	3.96	1.37	2.63
04/09/2015	4.22	2.29	3.29
05/09/2015	4.38	3.25	3.71
06/09/2015	3.70	1.62	2.62

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
01/06/2014	3.20	1.51	2.56
02/06/2014	2.90	1.21	2.07
03/06/2014	2.82	0.99	1.89
04/06/2014	2.98	0.96	2.00
05/06/2014	3.27	1.51	2.38
06/06/2014	3.43	1.81	2.60
07/06/2014	4.04	1.86	2.90
08/06/2014	4.35	2.29	3.09
09/06/2014	4.48	2.24	3.11
10/06/2014	3.93	2.21	3.00
11/06/2014	3.41	2.02	2.80
12/06/2014	3.38	2.40	2.87
13/06/2014	4.32	1.91	2.95
14/06/2014	3.46	2.56	3.00
15/06/2014	3.70	2.34	2.88
16/06/2014	3.85	2.05	2.91
17/06/2014	3.85	2.53	3.11
18/06/2014	3.91	2.42	3.11
19/06/2014	3.64	2.24	2.93
20/06/2014	4.12	2.02	2.96
21/06/2014	4.25	2.80	3.31
22/06/2014	4.43	2.24	3.34
23/06/2014	4.38	2.66	3.50
24/06/2014	4.12	2.98	3.55
25/06/2014	3.88	2.90	3.30
26/06/2014	4.32	2.53	3.49
27/06/2014	4.12	2.45	3.37
28/06/2014	4.79	2.64	3.65
29/06/2014	4.84	3.01	3.90
30/06/2014	4.77	3.72	4.14
01/07/2014	5.05	3.64	4.21
02/07/2014	5.05	3.12	4.12
03/07/2014	6.31	3.70	4.69
04/07/2014	5.31	3.59	4.47
05/07/2014	5.10	3.88	4.43
06/07/2014	4.97	3.85	4.40
07/07/2014	4.95	3.64	4.25

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
08/07/2014	4.61	3.67	4.12
09/07/2014	5.33	3.72	4.43
10/07/2014	5.39	3.62	4.51
11/07/2014	5.54	4.01	4.69
12/07/2014	5.10	3.99	4.60
13/07/2014	5.08	3.83	4.41
14/07/2014	4.71	3.27	4.01
15/07/2014	4.64	3.27	3.94
16/07/2014	4.77	3.43	3.99
17/07/2014	4.77	3.54	4.05
18/07/2014	4.66	3.56	4.06
19/07/2014	4.92	3.46	4.11
20/07/2014	4.09	3.67	3.88
21/07/2014	5.15	3.54	4.23
22/07/2014	5.15	3.30	4.22
23/07/2014	4.79	3.67	4.23
24/07/2014	4.64	3.72	4.17
25/07/2014	4.53	3.80	4.15
26/07/2014	4.51	3.62	4.05
27/07/2014	4.61	3.64	4.07
28/07/2014	5.54	3.85	4.47
29/07/2014	4.90	3.59	4.09
30/07/2014	5.08	3.33	4.00
31/07/2014	5.39	2.61	3.81
01/08/2014	5.05	3.20	4.13
02/08/2014	5.64	3.91	4.64
03/08/2014	5.23	3.59	4.41
04/08/2014	5.08	4.06	4.61
05/08/2014	4.64	3.75	4.21
06/08/2014	4.56	3.64	4.11
07/08/2014	5.02	3.75	4.23
08/08/2014	5.10	3.43	4.12
09/08/2014	5.00	3.14	4.02
10/08/2014	4.90	3.27	4.08
11/08/2014	4.97	3.70	4.36
12/08/2014	5.00	4.01	4.46
13/08/2014	4.74	3.54	4.14

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
14/08/2014	4.77	3.70	4.21
15/08/2014	4.71	3.67	4.19
16/08/2014	4.64	3.46	4.07
17/08/2014	4.61	3.54	4.03
18/08/2014	4.61	3.75	4.09
19/08/2014	4.77	3.78	4.22
20/08/2014	4.58	3.56	4.06
21/08/2014	4.38	3.20	3.80
22/08/2014	4.53	3.56	3.98
23/08/2014	4.32	3.30	3.81
24/08/2014	4.38	3.43	3.89
25/08/2014	4.48	3.64	4.05
26/08/2014	4.32	3.59	3.93
27/08/2014	4.14	3.04	3.61
28/08/2014	4.17	3.20	3.70
29/08/2014	4.19	3.27	3.70
30/08/2014	4.04	3.51	3.76
31/08/2014	3.67	3.06	3.33
01/09/2014	3.49	2.34	2.83
02/09/2014	3.43	2.32	2.89
03/09/2014	3.33	2.61	2.93
04/09/2014	3.01	1.56	2.23
05/09/2014	3.33	2.61	2.88
06/09/2014	2.82	2.26	2.48
07/09/2014	2.88	1.72	2.20
08/09/2014	2.61	0.85	1.51
09/09/2014	2.72	0.91	1.68
10/09/2014	3.09	1.81	2.38
11/09/2014	3.41	2.29	2.74
12/09/2014	3.67	2.05	2.78
13/09/2014	3.83	2.88	3.32
14/09/2014	3.85	2.98	3.32
15/09/2014	3.62	2.48	3.02
16/09/2014	3.85	3.01	3.35
17/09/2014	3.01	1.81	2.45
18/09/2014	2.64	1.51	2.06
19/09/2014	3.04	1.81	2.31

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
20/09/2014	3.09	2.13	2.50
21/09/2014	2.90	1.81	2.34
22/09/2014	2.74	1.86	2.49
23/09/2014	1.83	1.10	1.39
24/09/2014	1.64	1.04	1.32
25/09/2014	1.02	0.50	0.74
26/09/2014	0.99	0.33	0.62
27/09/2014	1.56	0.96	1.29
28/09/2014	1.81	1.34	1.56
29/09/2014	1.94	1.07	1.42
30/09/2014	1.43	0.88	1.18
01/10/2014	1.21	0.30	0.69
02/10/2014	0.74	0.19	0.46
03/10/2014	1.10	0.61	0.80
04/10/2014	0.85	0.61	0.72
05/10/2014	1.04	0.55	0.80
08/10/2014	0.80	0.08	0.44
09/10/2014	0.38	0.14	0.31
10/10/2014	0.80	0.30	0.53
11/10/2014	1.04	0.50	0.76
12/10/2014	0.96	0.69	0.85
13/10/2014	1.21	0.63	0.87
14/10/2014	0.99	0.52	0.79
15/10/2014	0.93	0.50	0.70
16/10/2014	0.91	0.41	0.68
17/10/2014	0.72	0.22	0.42
18/10/2014	0.55	0.33	0.44
19/10/2014	0.85	0.50	0.63
20/10/2014	0.96	0.47	0.71
21/10/2014	0.96	0.69	0.76
22/10/2014	0.96	0.69	0.77
23/10/2014	0.74	0.50	0.61
24/10/2014	0.83	0.38	0.52
25/10/2014	0.41	0.11	0.29
26/10/2014	0.08	-0.76	-0.22
27/10/2014	-0.17	-1.36	-0.69
28/10/2014	-0.70	-1.58	-1.07

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
29/10/2014	-0.90	-2.95	-1.52
30/10/2014	-0.40	-2.45	-1.18
31/10/2014	-0.40	-4.02	-1.84
21/06/2015	4.61	3.25	3.96
22/06/2015	5.62	3.56	4.36
23/06/2015	5.75	3.99	4.71
24/06/2015	5.44	4.06	4.60
25/06/2015	5.51	4.04	4.61
26/06/2015	5.02	3.43	4.06
27/06/2015	4.09	2.85	3.49
28/06/2015	5.23	2.88	3.82
29/06/2015	5.62	3.04	4.16
30/06/2015	5.05	3.54	4.32
01/07/2015	4.51	3.17	3.80
02/07/2015	3.67	2.66	3.10
03/07/2015	4.48	3.01	3.55
04/07/2015	5.10	2.48	3.72
05/07/2015	4.97	3.59	4.20
06/07/2015	5.95	3.38	4.58
07/07/2015	5.13	4.12	4.64
08/07/2015	5.23	3.93	4.60
09/07/2015	4.90	3.85	4.39
10/07/2015	4.97	3.43	4.20
11/07/2015	5.39	3.88	4.38
12/07/2015	4.38	3.27	3.82
13/07/2015	4.61	2.90	3.49
14/07/2015	4.30	2.85	3.49
15/07/2015	4.77	2.34	3.44
16/07/2015	5.21	2.93	3.80
17/07/2015	6.31	3.46	4.52
18/07/2015	5.39	3.51	4.42
19/07/2015	5.21	3.49	4.30
20/07/2015	5.13	3.22	4.12
21/07/2015	4.79	3.51	4.15
22/07/2015	4.77	3.01	3.88
23/07/2015	4.92	2.98	3.92
24/07/2015	5.21	3.51	4.26

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
25/07/2015	5.05	3.38	4.26
26/07/2015	5.08	3.78	4.30
27/07/2015	4.82	3.38	3.99
28/07/2015	4.74	3.62	4.16
29/07/2015	4.35	3.17	3.82
30/07/2015	4.66	2.77	3.48
31/07/2015	4.51	2.74	3.48
01/08/2015	4.43	2.42	3.39
02/08/2015	4.38	3.22	3.70
03/08/2015	5.05	2.40	3.58
04/08/2015	5.59	2.77	3.96
05/08/2015	5.69	3.20	4.27
06/08/2015	4.66	3.80	4.18
07/08/2015	5.28	3.01	3.95
08/08/2015	4.92	2.69	3.75
09/08/2015	5.18	3.09	4.08
10/08/2015	5.10	3.93	4.48
11/08/2015	4.71	3.27	3.98
12/08/2015	4.82	3.46	3.99
13/08/2015	4.84	2.98	3.84
14/08/2015	4.97	3.27	3.99
15/08/2015	5.13	2.90	3.86
16/08/2015	4.45	3.33	3.89
17/08/2015	4.22	2.85	3.59
18/08/2015	4.45	3.62	3.97
19/08/2015	4.38	3.64	3.98
20/08/2015	3.67	2.64	3.20
21/08/2015	3.96	1.62	2.62
22/08/2015	3.72	2.18	2.91
23/08/2015	3.83	2.72	3.20
24/08/2015	4.51	2.85	3.46
25/08/2015	4.06	2.05	3.02
26/08/2015	3.80	3.04	3.44
27/08/2015	3.51	3.04	3.26
28/08/2015	3.06	2.21	2.49
29/08/2015	2.69	1.64	2.08
30/08/2015	2.64	1.18	1.89

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

YR24 (T3)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
31/08/2015	3.27	1.81	2.38
01/09/2015	3.12	1.94	2.43
02/09/2015	3.30	1.48	2.29
03/09/2015	3.49	0.99	2.07
04/09/2015	3.06	1.75	2.47
05/09/2015	3.83	2.50	2.93
06/09/2015	3.09	1.21	1.97
07/09/2015	2.77	0.80	1.62
08/09/2015	2.88	0.83	1.62
09/09/2015	3.46	1.26	2.14
10/09/2015	3.49	1.67	2.46
11/09/2015	3.67	2.53	2.96
12/09/2015	3.09	1.34	2.29
13/09/2015	2.82	2.05	2.29
14/09/2015	3.22	1.43	2.23
15/09/2015	2.72	2.10	2.35

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
01/06/2014	3.09	0.52	2.06
02/06/2014	2.88	0.63	1.80
03/06/2014	3.17	0.50	1.81
04/06/2014	3.51	0.61	2.10
05/06/2014	3.93	1.26	2.56
06/06/2014	4.06	1.62	2.78
07/06/2014	5.02	1.56	3.09
08/06/2014	5.10	2.18	3.41
09/06/2014	5.67	2.21	3.75
10/06/2014	4.61	2.26	3.43
11/06/2014	4.14	1.89	3.06
12/06/2014	4.12	2.48	3.29
13/06/2014	5.28	1.94	3.48
14/06/2014	4.32	2.93	3.61
15/06/2014	4.53	2.69	3.46
16/06/2014	5.33	2.10	3.62
17/06/2014	4.66	2.93	3.65
18/06/2014	4.79	2.69	3.67
19/06/2014	4.84	2.45	3.55
20/06/2014	4.90	2.10	3.47
21/06/2014	5.33	3.09	3.99
22/06/2014	5.18	2.32	3.79
23/06/2014	5.54	2.77	4.13
24/06/2014	4.79	3.35	4.11
25/06/2014	4.64	3.51	3.89
26/06/2014	4.25	1.97	3.23
27/06/2014	4.48	2.05	3.33
28/06/2014	5.77	2.32	3.97
29/06/2014	6.74	3.04	4.76
30/06/2014	6.43	4.32	5.16
01/07/2014	5.62	3.70	4.49
02/07/2014	5.39	2.61	4.01
03/07/2014	7.97	3.46	5.15
04/07/2014	6.71	3.54	5.02
05/07/2014	6.74	4.06	5.16
06/07/2014	6.13	4.06	5.18
07/07/2014	6.61	3.80	5.10

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
08/07/2014	6.00	4.01	4.86
09/07/2014	5.95	3.35	4.47
10/07/2014	6.46	3.27	4.85
11/07/2014	7.37	4.19	5.53
12/07/2014	6.69	4.45	5.63
13/07/2014	6.71	4.19	5.45
14/07/2014	7.07	3.38	5.11
15/07/2014	6.74	3.64	5.14
16/07/2014	6.69	4.12	5.28
17/07/2014	7.02	4.30	5.51
18/07/2014	7.34	4.43	5.73
19/07/2014	7.59	4.25	5.75
20/07/2014	5.95	4.74	5.25
21/07/2014	6.89	4.22	5.36
22/07/2014	7.37	3.33	5.18
23/07/2014	6.61	4.22	5.36
24/07/2014	6.59	4.40	5.44
25/07/2014	5.77	4.61	5.23
26/07/2014	5.98	4.14	4.99
27/07/2014	6.36	4.25	5.15
28/07/2014	6.31	4.17	5.11
29/07/2014	4.97	3.72	4.26
30/07/2014	5.51	3.22	4.20
31/07/2014	6.38	2.45	4.18
01/08/2014	6.46	3.20	4.79
02/08/2014	7.90	4.35	5.74
03/08/2014	7.47	3.83	5.53
04/08/2014	7.14	4.71	5.91
05/08/2014	7.07	4.17	5.48
06/08/2014	5.75	4.19	5.05
07/08/2014	6.10	4.22	4.94
08/08/2014	6.10	3.41	4.62
09/08/2014	6.51	3.12	4.69
10/08/2014	6.74	3.35	4.97
11/08/2014	6.46	4.04	5.29
12/08/2014	6.91	4.53	5.48
13/08/2014	6.46	3.72	5.01

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
14/08/2014	6.69	4.12	5.25
15/08/2014	5.98	3.93	5.00
16/08/2014	6.15	3.54	4.84
17/08/2014	6.43	3.67	4.83
18/08/2014	6.08	4.12	4.99
19/08/2014	6.61	4.22	5.33
20/08/2014	6.61	3.83	5.08
21/08/2014	6.05	2.98	4.45
22/08/2014	6.18	3.83	4.81
23/08/2014	5.75	3.30	4.44
24/08/2014	5.77	3.54	4.60
25/08/2014	5.90	4.01	4.90
26/08/2014	5.64	3.91	4.73
27/08/2014	4.95	2.82	3.97
28/08/2014	5.39	3.06	4.21
29/08/2014	5.51	3.22	4.30
30/08/2014	5.21	3.99	4.50
31/08/2014	4.45	3.38	3.89
01/09/2014	4.48	2.32	3.18
02/09/2014	4.14	2.16	3.17
03/09/2014	4.09	2.80	3.37
04/09/2014	3.67	1.26	2.40
05/09/2014	3.93	2.82	3.27
06/09/2014	3.22	2.50	2.81
07/09/2014	3.25	1.94	2.42
08/09/2014	2.93	0.74	1.63
09/09/2014	3.12	0.77	1.82
10/09/2014	3.67	1.81	2.67
11/09/2014	3.88	2.42	3.07
12/09/2014	4.30	1.99	3.10
13/09/2014	4.84	3.33	4.01
14/09/2014	4.69	3.30	3.87
15/09/2014	4.35	2.45	3.38
16/09/2014	4.79	3.20	3.90
17/09/2014	3.49	1.53	2.50
18/09/2014	2.80	1.10	1.90
19/09/2014	3.38	1.48	2.28

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
20/09/2014	3.64	1.86	2.56
21/09/2014	3.27	1.48	2.37
22/09/2014	3.14	1.97	2.73
23/09/2014	1.91	0.93	1.31
24/09/2014	1.62	0.80	1.18
25/09/2014	0.74	0.00	0.13
26/09/2014	0.19	0.00	0.07
27/09/2014	1.56	0.16	1.04
28/09/2014	2.02	1.43	1.61
29/09/2014	2.10	1.07	1.52
30/09/2014	1.48	0.80	1.19
01/10/2014	1.26	0.00	0.49
02/10/2014	0.36	0.00	0.07
03/10/2014	1.07	0.08	0.56
04/10/2014	0.69	0.05	0.29
05/10/2014	0.88	0.00	0.36
08/10/2014	0.19	0.00	0.07
09/10/2014	0.08	0.00	0.04
10/10/2014	0.08	0.02	0.06
11/10/2014	0.30	0.05	0.16
12/10/2014	0.66	0.16	0.45
13/10/2014	0.96	0.25	0.52
14/10/2014	0.80	0.08	0.46
15/10/2014	0.77	0.05	0.35
16/10/2014	0.63	0.00	0.34
17/10/2014	0.11	0.00	0.05
18/10/2014	0.19	0.02	0.06
19/10/2014	0.27	0.08	0.14
20/10/2014	0.72	0.05	0.34
21/10/2014	0.74	0.30	0.47
22/10/2014	0.83	0.38	0.55
23/10/2014	0.58	0.27	0.41
24/10/2014	0.66	0.16	0.36
25/10/2014	0.25	0.02	0.13
26/10/2014	0.14	0.00	0.05
27/10/2014	0.02	0.00	0.00
28/10/2014	0.05	0.00	0.01

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
29/10/2014	0.02	0.00	0.02
30/10/2014	0.02	0.00	0.02
31/10/2014	0.02	0.02	0.02
01/05/2015	-0.03	-0.06	-0.06
02/05/2015	-0.03	-0.06	-0.05
03/05/2015	0.00	-0.06	-0.04
04/05/2015	0.00	-0.06	-0.04
05/05/2015	0.00	-0.03	-0.03
06/05/2015	0.05	-0.03	-0.02
07/05/2015	0.02	-0.03	-0.01
08/05/2015	0.02	-0.03	-0.01
09/05/2015	0.02	-0.03	-0.01
10/05/2015	0.19	0.00	0.07
11/05/2015	0.36	0.00	0.13
12/05/2015	0.41	0.00	0.16
13/05/2015	0.50	0.00	0.18
14/05/2015	0.50	0.00	0.20
15/05/2015	0.63	0.00	0.26
16/05/2015	0.74	0.02	0.30
17/05/2015	0.74	0.05	0.32
18/05/2015	0.80	0.00	0.37
19/05/2015	1.02	0.05	0.43
20/05/2015	0.99	0.02	0.41
21/05/2015	1.07	0.02	0.46
22/05/2015	1.15	0.08	0.52
23/05/2015	1.45	0.22	0.70
24/05/2015	1.94	0.27	0.94
25/05/2015	2.85	0.33	1.36
26/05/2015	2.48	0.50	1.46
27/05/2015	3.59	0.44	1.93
28/05/2015	1.40	0.14	0.56
29/05/2015	2.64	0.55	1.47
30/05/2015	4.19	1.15	2.50
31/05/2015	4.45	1.34	2.78
01/06/2015	3.25	1.21	2.30
02/06/2015	3.67	1.67	2.46
03/06/2015	3.17	1.89	2.53

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
04/06/2015	4.06	1.24	2.42
05/06/2015	5.00	2.07	3.29
06/06/2015	3.85	1.59	2.87
07/06/2015	4.45	1.64	2.80
08/06/2015	3.93	1.91	2.98
09/06/2015	5.44	1.75	3.39
10/06/2015	5.02	3.09	3.75
11/06/2015	4.97	2.64	3.72
12/06/2015	5.00	2.72	3.81
13/06/2015	5.92	2.58	4.10
14/06/2015	6.20	2.42	4.21
15/06/2015	6.66	3.01	4.66
16/06/2015	6.43	3.93	5.18
17/06/2015	7.37	3.91	5.47
18/06/2015	6.84	3.96	5.33
19/06/2015	7.29	3.49	5.26
20/06/2015	7.27	3.93	5.50
21/06/2015	6.97	4.32	5.62
22/06/2015	7.87	4.56	6.08
23/06/2015	8.12	5.10	6.48
24/06/2015	7.62	5.23	6.23
25/06/2015	7.47	4.92	6.15
26/06/2015	6.99	3.35	5.68
27/06/2015	3.99	2.32	3.11
28/06/2015	5.69	2.50	3.78
29/06/2015	6.48	2.77	4.35
30/06/2015	6.15	3.51	4.77
01/07/2015	5.23	3.17	3.99
02/07/2015	3.99	2.48	3.10
03/07/2015	4.61	2.93	3.50
04/07/2015	5.49	2.21	3.75
05/07/2015	5.51	3.51	4.37
06/07/2015	7.52	3.33	5.15
07/07/2015	6.03	4.43	5.23
08/07/2015	6.51	4.22	5.36
09/07/2015	6.13	4.17	5.10
10/07/2015	6.10	3.46	4.83

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
11/07/2015	5.77	4.19	4.87
12/07/2015	4.69	3.64	4.26
13/07/2015	5.28	2.98	3.76
14/07/2015	4.58	2.93	3.70
15/07/2015	5.00	2.34	3.63
16/07/2015	6.00	2.98	4.19
17/07/2015	7.70	3.72	5.28
18/07/2015	6.56	3.80	5.20
19/07/2015	6.86	3.93	5.21
20/07/2015	6.91	3.64	5.08
21/07/2015	6.59	3.99	5.14
22/07/2015	6.51	3.17	4.78
23/07/2015	6.54	3.06	4.77
24/07/2015	7.59	4.01	5.48
25/07/2015	7.07	3.75	5.39
26/07/2015	6.94	4.35	5.52
27/07/2015	6.20	3.96	4.90
28/07/2015	5.80	3.85	4.72
29/07/2015	4.40	3.30	3.96
30/07/2015	5.00	2.80	3.63
31/07/2015	4.77	2.77	3.57
01/08/2015	4.74	2.37	3.51
02/08/2015	4.69	3.27	3.87
03/08/2015	5.59	2.37	3.87
04/08/2015	6.41	2.85	4.41
05/08/2015	6.54	3.35	4.81
06/08/2015	5.23	4.09	4.54
07/08/2015	5.85	3.09	4.28
08/08/2015	5.51	2.74	4.10
09/08/2015	5.82	3.17	4.39
10/08/2015	5.72	4.17	4.92
11/08/2015	5.26	3.51	4.41
12/08/2015	5.44	3.78	4.47
13/08/2015	5.75	3.25	4.37
14/08/2015	5.77	3.46	4.44
15/08/2015	6.08	2.90	4.38
16/08/2015	5.05	3.59	4.32

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Halfway Creek (T4)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
17/08/2015	4.69	2.80	3.86
18/08/2015	4.95	3.80	4.32
19/08/2015	4.90	3.91	4.36
20/08/2015	4.06	3.01	3.58
21/08/2015	4.43	1.83	2.93
22/08/2015	4.25	2.32	3.17
23/08/2015	4.35	2.93	3.54
24/08/2015	4.87	3.04	3.76
25/08/2015	4.38	2.16	3.24
26/08/2015	4.06	3.17	3.66
27/08/2015	3.91	3.17	3.49
28/08/2015	3.25	2.40	2.67
29/08/2015	2.96	1.78	2.29
30/08/2015	2.85	1.32	2.07
31/08/2015	3.59	1.91	2.59
01/09/2015	3.41	2.02	2.63
02/09/2015	3.70	1.53	2.51
03/09/2015	3.88	1.04	2.32
04/09/2015	3.35	1.81	2.68
05/09/2015	4.32	2.64	3.20
06/09/2015	3.30	1.32	2.14
07/09/2015	2.96	0.72	1.74
08/09/2015	2.88	0.72	1.66
09/09/2015	3.70	1.26	2.26
10/09/2015	3.56	1.70	2.56
11/09/2015	3.75	2.61	3.05
12/09/2015	3.30	1.21	2.34
13/09/2015	3.09	2.05	2.41
14/09/2015	3.54	1.48	2.38
15/09/2015	2.93	2.13	2.48

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Kona Tributary (T5)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
08/10/2014	0.14	0.00	0.05
09/10/2014	0.02	0.00	0.02
10/10/2014	0.14	0.02	0.07
11/10/2014	0.19	0.05	0.12
12/10/2014	0.25	0.08	0.13
13/10/2014	0.30	0.05	0.13
14/10/2014	0.25	0.05	0.12
15/10/2014	0.22	0.05	0.12
16/10/2014	0.22	0.00	0.09
17/10/2014	0.08	0.00	0.03
18/10/2014	0.08	0.00	0.03
19/10/2014	0.16	0.05	0.10
20/10/2014	0.22	0.08	0.14
21/10/2014	0.25	0.05	0.13
22/10/2014	0.22	0.11	0.16
23/10/2014	0.19	0.11	0.15
24/10/2014	0.22	0.08	0.12
25/10/2014	0.16	0.02	0.07
26/10/2014	0.05	0.00	0.02
27/10/2014	0.05	0.00	0.02
28/10/2014	0.02	0.02	0.02
29/10/2014	0.02	0.02	0.02
30/10/2014	0.02	0.02	0.02
31/10/2014	0.02	0.02	0.02
22/06/2015	6.13	4.14	5.16
23/06/2015	6.91	4.30	5.48
24/06/2015	5.87	4.56	5.17
25/06/2015	6.05	3.93	5.02
26/06/2015	5.62	2.18	4.56
27/06/2015	3.04	1.78	2.46
02/07/2015	3.04	1.78	2.32
03/07/2015	3.51	2.24	2.71
07/07/2015	5.23	3.46	4.30
08/07/2015	5.59	3.33	4.43
09/07/2015	5.23	3.22	4.22
10/07/2015	5.15	2.48	3.83
11/07/2015	4.71	3.25	3.91

Appendix E2. Stream Temperature Data, Coffee Gold Project, 2014-2015

Kona Tributary (T5)			
Date	Max Temperature (°C)	Min Temperature (°C)	Average Temperature (°C)
12/07/2015	4.14	2.98	3.47
13/07/2015	4.19	2.56	3.18
14/07/2015	3.54	2.29	2.87
15/07/2015	4.09	1.72	2.88
16/07/2015	4.48	2.29	3.33
29/07/2015	3.20	2.42	2.78
30/07/2015	4.17	2.24	3.02
31/07/2015	4.27	2.26	3.09
01/08/2015	4.14	1.89	3.01
01/09/2015	2.72	1.43	1.97
02/09/2015	3.01	0.93	1.80
03/09/2015	3.12	0.52	1.66
04/09/2015	2.93	1.21	2.07
05/09/2015	3.38	1.94	2.46
06/09/2015	3.01	0.55	1.57
07/09/2015	2.32	0.19	1.17
08/09/2015	2.53	0.27	1.24
09/09/2015	3.33	0.66	1.78
10/09/2015	3.49	0.99	2.11
11/09/2015	3.70	2.24	2.76
12/09/2015	3.04	0.77	1.92
13/09/2015	3.14	1.43	2.04
14/09/2015	3.38	0.83	1.89
15/09/2015	2.40	1.62	1.88

Appendix F

Fish Community

- **F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015**
- **F2. Electrofishing Effort and Catch, Coffee Gold Project, 2014-2015**
- **F3. Fyke Netting, Angling Effort and Catch, Coffee Gold Project, 2014-2015**
- **F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015**
- **F5. Fish Tissue Metal Concentrations, Coffee Gold Project, 2014-2015**
- **F6. Arctic Grayling Stomach Samples, Coffee Gold Project, 2014-2015**

Appendix F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Waterbody	Trap	Effort (hours)	Catch			
					GR	CCG	CH	Total
21-Aug-14	AQREF1	Isaac	1	26.55	0	0	4	4
21-Aug-14	AQREF1	Isaac	2	26.55	1	0	9	10
21-Aug-14	AQREF1	Isaac	3	26.55	0	0	1	1
21-Aug-14	AQREF1	Isaac	4	26.55	0	1	6	7
21-Aug-14	AQREF1	Isaac	5	26.55	0	0	6	6
21-Aug-14	AQREF1	Isaac	6	26.55	0	0	0	0
21-Aug-14	AQREF1	Isaac	7	26.55	0	0	3	3
21-Aug-14	AQREF1	Isaac	8	26.55	0	0	6	6
23-Aug-14	AQ05	Latte	1	29.00	0	0	0	0
23-Aug-14	AQ05	Latte	2	29.00	0	0	0	0
23-Aug-14	AQ06	Latte	1	27.58	0	0	0	0
23-Aug-14	AQ06	Latte	2	27.58	0	0	0	0
23-Aug-14	AQ21	Halfway	1	26.08	0	0	0	0
23-Aug-14	AQ21	Halfway	2	26.08	0	0	0	0
23-Aug-14	AQ31	YR24	1	24.42	0	0	0	0
23-Aug-14	AQ31	YR24	2	24.42	0	0	0	0
23-Aug-14	AQ13	Kona Tributary	1	23.50	0	0	0	0
23-Aug-14	AQ13	Kona Tributary	2	23.50	0	0	0	0
23-Aug-14	AQ12	Kona Tributary	1	22.50	0	0	0	0
23-Aug-14	AQ12	Kona Tributary	2	22.50	0	0	0	0
24-Aug-14	AQ10	Independence	1	24.92	0	0	0	0
24-Aug-14	AQ10	Independence	2	24.92	0	0	0	0
24-Aug-14	AQ10	Independence	3	24.92	0	0	3	3
24-Aug-14	AQ10	Independence	4	24.92	0	0	1	1
24-Aug-14	AQ10	Independence	5	24.92	0	0	0	0
24-Aug-14	AQ10	Independence	6	24.92	0	0	1	1
24-Aug-14	AQ10	Independence	7	24.92	0	0	1	1
24-Aug-14	AQ10	Independence	8	24.92	0	0	4	4
24-Aug-14	AQ10	Independence	9	24.92	0	0	0	0
24-Aug-14	AQ10	Independence	10	24.92	0	0	0	0
24-Aug-14	AQ00	Coffee	1	24.33	0	0	7	7
24-Aug-14	AQ00	Coffee	2	24.33	0	0	14	14
24-Aug-14	AQ00	Coffee	3	24.33	0	0	13	13
24-Aug-14	AQ00	Coffee	4	24.33	0	1	4	5
24-Aug-14	AQ00	Coffee	5	24.33	0	0	4	4
24-Aug-14	AQ00	Coffee	6	24.33	0	0	18	18
24-Aug-14	AQ00	Coffee	7	24.33	0	1	14	15
24-Aug-14	AQ00	Coffee	8	24.33	0	1	17	18
24-Aug-14	AQ00	Coffee	9	24.33	0	0	6	6
24-Aug-14	AQ00	Coffee	10	24.33	0	0	25	25
25-Aug-14	AQ04	Latte	1	23.67	0	0	0	0
25-Aug-14	AQ04	Latte	2	23.67	0	0	0	0
25-Aug-14	AQ04	Latte	3	23.67	0	0	0	0
25-Aug-14	AQ04	Latte	4	23.67	0	0	0	0
25-Aug-14	AQ04	Latte	5	23.67	0	0	0	0

Note: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon

Appendix F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Waterbody	Trap	Effort (hours)	Catch			
					GR	CCG	CH	Total
25-Aug-14	AQ11	Independence	1	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	2	24.75	0	0	1	1
25-Aug-14	AQ11	Independence	3	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	4	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	5	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	6	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	7	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	8	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	9	24.75	0	0	0	0
25-Aug-14	AQ11	Independence	10	24.75	0	0	0	0
26-Aug-14	AQ02	Coffee	1	27.17	0	0	1	1
26-Aug-14	AQ02	Coffee	2	27.17	0	0	0	0
26-Aug-14	AQ02	Coffee	3	27.17	0	0	20	20
26-Aug-14	AQ02	Coffee	4	27.17	0	0	0	0
26-Aug-14	AQ02	Coffee	5	27.17	0	1	14	15
26-Aug-14	AQ02	Coffee	6	27.17	0	1	0	1
26-Aug-14	AQ02	Coffee	7	27.17	0	0	1	1
26-Aug-14	AQ02	Coffee	8	27.17	0	1	0	1
26-Aug-14	AQ02	Coffee	9	27.17	0	0	8	8
26-Aug-14	AQ02	Coffee	10	27.17	0	1	18	19
27-Aug-14	AQ01	Coffee	1	23.75	0	0	4	4
27-Aug-14	AQ01	Coffee	2	23.75	0	0	7	7
27-Aug-14	AQ01	Coffee	3	23.75	0	0	2	2
27-Aug-14	AQ01	Coffee	4	23.75	0	0	3	3
27-Aug-14	AQ01	Coffee	5	23.75	0	1	4	5
27-Aug-14	AQ01	Coffee	6	23.75	0	0	7	7
27-Aug-14	AQ01	Coffee	7	23.75	0	0	7	7
27-Aug-14	AQ01	Coffee	8	23.75	0	0	2	2
27-Aug-14	AQ01	Coffee	9	23.75	0	0	34	34
27-Aug-14	AQ01	Coffee	10	23.75	0	0	2	2
5-Oct-14	AQ02	Coffee	1	25.00	0	1	4	5
5-Oct-14	AQ02	Coffee	2	25.00	0	0	1	1
5-Oct-14	AQ02	Coffee	3	25.00	0	0	7	7
5-Oct-14	AQ02	Coffee	4	25.00	0	2	3	5
5-Oct-14	AQ02	Coffee	5	25.00	0	0	1	1
5-Oct-14	AQ01	Coffee	1	25.00	0	0	4	4
5-Oct-14	AQ01	Coffee	2	25.00	0	0	1	1
5-Oct-14	AQ01	Coffee	3	25.00	0	0	20	20
5-Oct-14	AQ01	Coffee	4	25.00	0	0	6	6
5-Oct-14	AQ01	Coffee	5	25.00	0	2	4	6
5-Oct-14	AQ00	Coffee	1	25.25	0	0	2	2
5-Oct-14	AQ00	Coffee	2	25.25	0	1	1	2
5-Oct-14	AQ00	Coffee	3	25.25	0	0	2	2
5-Oct-14	AQ00	Coffee	4	25.25	0	0	1	1

Note: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon

Appendix F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Waterbody	Trap	Effort (hours)	Catch			
					GR	CCG	CH	Total
5-Oct-14	AQ00	Coffee	5	25.25	0	0	19	19
5-Oct-14	AQREF1	Isaac	1	25.50	0	0	6	6
5-Oct-14	AQREF1	Isaac	2	25.50	0	0	1	1
5-Oct-14	AQREF1	Isaac	3	25.50	0	0	7	7
5-Oct-14	AQREF1	Isaac	4	25.50	0	0	3	3
5-Oct-14	AQREF1	Isaac	5	25.50	0	0	2	2
5-Oct-14	AQ10	Independence	1	25.00	0	0	2	2
5-Oct-14	AQ10	Independence	2	25.00	0	0	0	0
5-Oct-14	AQ10	Independence	3	25.00	0	0	1	1
5-Oct-14	AQ10	Independence	4	25.00	0	0	1	1
5-Oct-14	AQ10	Independence	5	25.00	0	0	2	2
06-Oct-14	AQ11	Independence	1	20.67	0	0	0	0
06-Oct-14	AQ11	Independence	2	20.67	0	0	0	0
06-Oct-14	AQ11	Independence	3	20.67	0	0	0	0
06-Oct-14	AQ11	Independence	4	20.67	0	0	0	0
06-Oct-14	AQ11	Independence	5	20.67	0	0	0	0
20-Jun-15	AQREF2	Los Angeles	6	22.50	0	0	0	0
20-Jun-15	AQREF2	Los Angeles	7	22.50	0	0	0	0
20-Jun-15	AQREF2	Los Angeles	8	22.50	0	0	0	0
20-Jun-15	AQREF2	Los Angeles	9	22.50	0	0	0	0
20-Jun-15	AQREF2	Los Angeles	10	22.50	0	0	0	0
21-Jun-15	AQ10	Independence	1	25.58	0	0	1	1
21-Jun-15	AQ10	Independence	2	25.58	0	0	0	0
21-Jun-15	AQ10	Independence	3	25.58	0	0	0	0
21-Jun-15	AQ10	Independence	4	25.58	0	0	0	0
21-Jun-15	AQ10	Independence	5	25.58	0	0	0	0
22-Jun-15	AQ00	Coffee	1	24.25	0	3	0	3
22-Jun-15	AQ00	Coffee	2	24.25	0	0	0	0
22-Jun-15	AQ00	Coffee	3	24.25	0	0	0	0
22-Jun-15	AQ00	Coffee	4	24.25	0	0	0	0
22-Jun-15	AQ00	Coffee	5	24.25	0	0	0	0
22-Jun-15	AQ01	Coffee	1	22.50	0	0	0	0
22-Jun-15	AQ01	Coffee	2	22.50	0	2	0	2
22-Jun-15	AQ01	Coffee	3	22.50	0	0	0	0
22-Jun-15	AQ01	Coffee	4	22.50	0	0	0	0
22-Jun-15	AQ01	Coffee	5	22.50	0	0	0	0
22-Jun-15	AQREF1	Isaac	1	22.75	0	1	0	1
22-Jun-15	AQREF1	Isaac	2	22.75	0	1	0	1
22-Jun-15	AQREF1	Isaac	3	22.75	0	3	0	3
22-Jun-15	AQREF1	Isaac	4	22.75	0	1	0	1
22-Jun-15	AQREF1	Isaac	5	22.75	0	0	0	0
26-Jul-15	AQ00	Coffee	1	26.58	0	0	8	8
26-Jul-15	AQ00	Coffee	2	26.58	0	0	0	0
26-Jul-15	AQ00	Coffee	3	26.58	0	0	0	0

Note: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon

Appendix F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Waterbody	Trap	Effort (hours)	Catch			
					GR	CCG	CH	Total
26-Jul-15	AQ00	Coffee	4	26.58	0	0	0	0
26-Jul-15	AQ00	Coffee	5	26.58	0	0	0	0
26-Jul-15	AQ01	Coffee	1	19.92	0	1	2	3
26-Jul-15	AQ01	Coffee	2	19.92	0	0	0	0
26-Jul-15	AQ01	Coffee	3	19.92	0	0	0	0
26-Jul-15	AQ01	Coffee	4	19.92	0	0	0	0
26-Jul-15	AQ01	Coffee	5	19.92	0	0	0	0
26-Jul-15	AQ02	Coffee	1	24.75	3	3	0	6
26-Jul-15	AQ02	Coffee	2	24.75	0	0	0	0
26-Jul-15	AQ02	Coffee	3	24.75	0	0	0	0
26-Jul-15	AQ02	Coffee	4	24.75	0	0	0	0
26-Jul-15	AQ02	Coffee	5	24.75	0	0	0	0
27-Jul-15	AQ10	Independence	1	29.00	0	0	5	5
27-Jul-15	AQ10	Independence	2	29.00	0	0	0	0
27-Jul-15	AQ10	Independence	3	29.00	0	0	0	0
27-Jul-15	AQ10	Independence	4	29.00	0	0	0	0
27-Jul-15	AQ10	Independence	5	29.00	0	0	0	0
27-Jul-15	AQ11	Independence	1	23.75	0	0	0	0
27-Jul-15	AQ11	Independence	2	23.75	0	0	0	0
27-Jul-15	AQ11	Independence	3	23.75	0	0	0	0
27-Jul-15	AQ11	Independence	4	23.75	0	0	0	0
27-Jul-15	AQ11	Independence	5	23.75	0	0	0	0
27-Jul-15	AQREF1	Isaac	1	24.42	0	4	85	89
27-Jul-15	AQREF1	Isaac	2	24.42	0	0	0	0
27-Jul-15	AQREF1	Isaac	3	24.42	0	0	0	0
27-Jul-15	AQREF1	Isaac	4	24.42	0	0	0	0
27-Jul-15	AQREF1	Isaac	5	24.42	0	0	0	0
30-Jul-15	AQREF2	Los Angeles	1	24.83	0	0	0	0
30-Jul-15	AQREF2	Los Angeles	2	24.83	0	0	0	0
30-Jul-15	AQREF2	Los Angeles	3	24.83	0	0	0	0
30-Jul-15	AQREF2	Los Angeles	4	24.83	0	0	0	0
30-Jul-15	AQREF2	Los Angeles	5	24.83	0	0	0	0
31-Jul-15	AQ03	Latte	1	30.00	0	1	0	1
31-Jul-15	AQ03	Latte	2	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	3	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	4	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	5	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	6	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	7	30.00	0	0	0	0
31-Jul-15	AQ03	Latte	8	30.00	0	0	0	0
31-Jul-15	AQ10	Independence	1	20.83	0	0	5	5
31-Jul-15	AQ10	Independence	2	20.83	0	0	0	0
31-Jul-15	AQ10	Independence	3	20.83	0	0	0	0
31-Jul-15	AQ10	Independence	4	20.83	0	0	0	0

Note: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon

Appendix F1. Minnow Trapping Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Waterbody	Trap	Effort (hours)	Catch			
					GR	CCG	CH	Total
31-Jul-15	AQ10	Independence	5	20.83	0	0	0	0
31-Jul-15	AQ10	Independence	6	20.83	0	0	0	0
31-Jul-15	AQ10	Independence	7	20.83	0	0	0	0
31-Jul-15	AQ10	Independence	8	20.83	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	1	22.50	0	0	4	4
31-Jul-15	AQREF2	Los Angeles	2	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	3	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	4	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	5	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	6	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	7	22.50	0	0	0	0
31-Jul-15	AQREF2	Los Angeles	8	22.50	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	1	32.00	0	0	1	1
10-Sep-15	AQREF2	Los Angeles	2	32.00	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	3	32.00	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	4	32.00	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	5	32.00	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	6	32.00	0	0	0	0
12-Sep-15	AQ03	Latte	1	22.08	0	0	0	0
12-Sep-15	AQ03	Latte	2	22.08	0	0	0	0
12-Sep-15	AQ03	Latte	3	22.08	0	0	0	0
12-Sep-15	AQ03	Latte	4	22.08	0	0	0	0
12-Sep-15	AQ03	Latte	5	22.08	0	0	0	0
13-Sep-15	AQ10	Independence	1	38.25	0	1	4	5
13-Sep-15	AQ10	Independence	2	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	3	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	4	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	5	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	6	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	7	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	8	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	9	38.25	0	0	0	0
13-Sep-15	AQ10	Independence	10	38.25	0	0	0	0

Note: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon

Appendix F2. Electrofishing Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Watercourse	Pass #	Effort (s)	Section Length (m)	Voltage (V)	Catch							Comments
							GR	CCG	CH	BB	LSU	AL	Total	
19-Aug-14	AQREF1	Isaac	1	2276	100	350	5	69	35	0	0	1	110	three pass with stop nets
19-Aug-14	AQREF1	Isaac	2	1907	100	350	2	20	12	1	1	1	37	
19-Aug-14	AQREF1	Isaac	3	1619	100	350	5	32	14	1	0	0	52	
24-Aug-14	AQ11	Independence	1	1295	150	300	5	0	0	0	0	0	5	one pass with stop nets
25-Aug-14	AQ30	YR24	1	430	100	350	0	0	0	0	0	0	0	no stop nets, water low not required. Not much water to shock
25-Aug-14	AQ12	Kona Tributary	1	591	100	300	0	0	0	0	0	0	0	Water too low for requiring stop nets; no fish caught although two GR were observed on Aug 23 in the pool habitat near the downstream end of the site
25-Aug-14	AQ20	Halfway	1	653	100	300	1	0	0	0	0	0	1	Water low, stop nets not required
26-Aug-14	AQ10	Independence	1	957	100	300	2	7	0	0	0	0	9	two pass EF with stop nets
26-Aug-14	AQ10	Independence	2	982	100	300	1	2	1	0	0	0	4	
26-Aug-14	AQ00	Coffee	1	1457	120	300	0	24	10	0	0	0	34	
27-Aug-14	AQ04	Latte	1	1091	120	250	10	0	0	0	0	0	10	three pass with stop nets
27-Aug-14	AQ04	Latte	2	909	120	250	7	0	0	0	0	0	7	
27-Aug-14	AQ04	Latte	3	898	120	250	3	0	0	0	0	0	3	
28-Aug-14	AQREF1	Isaac	1	464	60	300	0	10	6	0	0	0	16	Started at first riffle approx. 50m upstream from the Yukon River
28-Aug-14	AQ10	Independence	1	483	100	300	0	10	0	0	0	0	10	Extra spot shocking for catching sculpins required for sampling. Effort not used in calculating CPUE because no stop nets were used
28-Aug-14	AQ02	Coffee	1	1118	150	300	0	31	0	0	0	0	31	Some unwadeable areas (high velocity riffles and deep pools) not sampled
18-Jun-15	AQ03	Latte	1	288	20	300	0	1	0	0	0	0	1	Single pass no nets.
18-Jun-15	AQ03	Latte	1	632	200	250	0	0	0	0	0	0	0	Single pass no nets. Four fish observed but not caught (3 x CCG, 1 x GR size 20-25cm).
18-Jun-15	AQ04	Latte	1	603	120	200	6	0	0	0	0	0	6	Single pass no nets.
18-Jun-15	AQ04.5	Latte	1	870	140	150	0	0	0	0	0	0	0	Single pass no nets.
18-Jun-15	AQ06	Latte	1	768	150	150	0	0	0	0	0	0	0	Single pass no nets.
19-Jun-15	AQ13	Kona Tributary	1	773	120	350	0	0	0	0	0	0	0	Single pass no nets.
19-Jun-15	AQ21	Halfway	1	896	120	350	0	0	0	0	0	0	0	Single pass no nets.
19-Jun-15	AQ31	YR24	1	755	120	350	0	0	0	0	0	0	0	Single pass no nets.
20-Jun-15	AQ20	Halfway	1	603	100	300	0	0	0	0	0	0	0	Single pass no nets.
20-Jun-15	AQ30	YR24	1	791	120	300	0	5	0	0	0	0	5	Single pass no nets; started at confluence with Yukon River.
21-Jun-15	AQ03	Latte	1	919	120	300	5	2	0	0	0	0	7	
21-Jun-15	AQ12	Kona Tributary	1	690	275	300	3	0	0	0	0	0	3	Single pass no nets; started at confluence with Independence Creek.
23-Jun-15	AQ04	Latte	1	675	120	250	5	0	0	0	0	0	5	Single pass no nets.
24-Jul-15	AQ04.5	Latte	1	854	140	300	0	0	0	0	0	0	0	Single pass no nets. 1 x GR observed but not caught (approximtely 250 mm length).
24-Jul-15	AQ06	Latte	1	835	100	350	0	0	0	0	0	0	0	Single pass no nets.
24-Jul-15	AQ13	Kona Tributary	1	559	100	300	0	0	0	0	0	0	0	Single pass no nets.
24-Jul-15	AQ20	Halfway	1	818	100	250	1	0	0	0	0	0	1	Single pass no nets.
24-Jul-15	AQ21	Halfway	1	845	100	350	0	0	0	0	0	0	0	Single pass no nets.
24-Jul-15	AQ30	YR24	1	600	100	250	0	0	0	0	0	0	0	Single pass no nets.
24-Jul-15	AQ31	YR24	1	748	100	250	0	0	0	0	0	0	0	Single pass no nets.
25-Jul-15	AQ04	Latte	1	1199	120	250	20	0	0	0	0	0	20	Three pass with stop nets.
25-Jul-15	AQ04	Latte	2	1073	120	250	15	0	0	0	0	0	15	Three pass with stop nets.
25-Jul-15	AQ04	Latte	3	879	120	250	4	0	0	0	0	0	4	Three pass with stop nets.
25-Jul-15	AQREF2	Los Angeles	1	1017	250	250	1	0	0	0	0	0	1	Three pass with nets.
25-Jul-15	AQREF2	Los Angeles	2	882	250	250	0	1	0	0	0	0	1	Three pass with nets. Observed 1 x GR below lower stop net. 3 x GR observed within site but not caught.
25-Jul-15	AQREF2	Los Angeles	3	993	250	250	0	0	0	0	0	0	0	Three pass with stop nets.
27-Jul-15	AQ02	Coffee	1	942	NR	250	0	6	0	0	0	0	6	Single pass no nets.
27-Jul-15	AQ12	Kona Tributary	1	627	100	300	0	0	0	0	0	0	0	Single pass no nets.
29-Jul-15	AQ03	Latte	1	1309	125	250	1	1	0	0	0	0	2	Single pass no nets.
11-Sep-15	AQREF2	Los Angeles	1	1700	250	300	0	0	0	0	0	0	0	Single pass no nets.
12-Sep-15	AQ03	Latte	1	1100	85	300	1	1	0	0	0	0	2	Single pass no nets.

Notes: GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey

Appendix F3. Fyke Trapping, Angling Effort and Catch, Coffee Gold Project, 2014-2015

Date	Site	Watercourse	Method	Trap	Effort (hours)	Catch			
						GR	CCG	CH	Total
26-Aug-14	AQ00	Coffee	FN	1	27.00	1	0	1	2
26-Aug-14	AQ00	Coffee	FN	2	26.75	5	0	2	7
27-Aug-14	AQ02	Coffee	FN	1	23.33	1	1	1	3
27-Aug-14	AQ02	Coffee	FN	2	23.25	0	4	13	17
30-Aug-14	AQ00	Coffee	A	n/a	2.00	1	0	0	1
5-Oct-14	AQ03	Latte	FN	1	25.83	1	7	0	8
22-Jun-15	AQ00	Coffee	A	n/a	3.75	6	0	0	6
22-Jun-15	AQ01	Coffee	A	n/a	3.00	2	0	0	2
26-Jul-15	AQ00	Coffee	A	n/a	2.50	12	0	0	12
26-Jul-15	AQ00	Coffee	FN	1	23.08	0	0	1	1
26-Jul-15	AQ01	Coffee	A	n/a	1.50	7	0	0	7
26-Jul-15	AQ02	Coffee	FN	1	23.92	0	0	0	0
26-Jul-15	AQ02	Coffee	A	n/a	3.75	20	0	0	20
27-Jul-15	AQ01	Coffee	FN	1	26.00	0	0	0	0
28-Jul-15	AQ11	Independence	A	n/a	5.50	8	0	0	8
30-Jul-15	AQREF2	Los Angeles	A	n/a	4.00	0	0	0	0
10-Sep-15	AQREF2	Los Angeles	A	n/a	1.50	1	0	0	1

Note: FN=Fyke trap, A=angling, n/a=not applicable, GR=Arctic grayling, CCG=slimy sculpin, CH=juvenile Chinook salmon
Fyke net effort is total number of hours deployed per net
Angling effort is the cumulative number of hours per person fishing

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
19-Aug-14	Isaac	AQREF1	EF	404	CH	65	3.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	405	CCG	70	4.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	406	CCG	68	3.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	407	CH	66	3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	408	CCG	42	1.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	409	CH	71	3.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	410	CCG	78	6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	411	CCG	72	5.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	412	CCG	73	5.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	413	CCG	70	5.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	414	CCG	70	4.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	415	CCG	59	2.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	416	CCG	69	4.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	417	CCG	75	5.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	418	CCG	75	5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	419	CCG	73	5.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	420	CCG	72	3.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	421	CCG	54	1.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	422	CCG	68	3.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	423	CCG	76	4.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	424	CCG	67	3.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	425	CCG	52	1.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	426	CCG	64	2.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	427	CCG	73	4.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	428	CCG	71	4.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	429	CCG	47	1.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	430	CCG	49	1.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	431	CCG	67	3.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	432	CCG	71	5.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	433	CCG	84	8.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	434	CCG	82	7.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	435	CCG	63	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	436	CCG	84	2.3		N	NS	weight outlier; removed from W-L analyses
19-Aug-14	Isaac	AQREF1	EF	437	CH	85	7.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	438	CH	62	2.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	439	GR	58	1.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	440	CH	64	2.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	441	CH	68	5.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	442	CH	71	4.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	443	GR	58	2.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	444	CH	66	3.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	445	CH	58	2.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	446	GR	61	2.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	447	CH	66	3.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	448	CH	68	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	449	CH	67	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	450	GR	72	4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	451	CH	65	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	452	CH	72	4.5		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
19-Aug-14	Isaac	AQREF1	EF	453	CH	71	4.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	454	CH	73	4.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	455	CH	71	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	456	CH	68	3.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	457	GR	59	1.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	458	CH	65	3.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	459	CH	76	5.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	460	CH	64	3.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	461	CH	53	1.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	462	CH	63	3.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	463	CH	66	3.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	464	CH	80	5.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	465	CH	63	2.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	466	CH	56	2.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	467	CH	60	2.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	468	CH	85	6.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	469	AL	120	3.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	470	CH	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	471	CH	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	472	CH	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	473	CH	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	474	CH	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	475	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	476	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	477	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	478	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	479	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	480	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	481	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	482	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	483	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	484	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	485	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	486	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	487	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	488	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	489	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	490	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	491	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	492	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	493	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	494	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	495	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	496	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	497	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	498	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	499	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	500	CCG	NS	NS		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
19-Aug-14	Isaac	AQREF1	EF	501	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	502	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	503	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	504	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	505	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	506	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	507	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	508	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	509	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	510	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	511	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	512	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	513	CCG	NS	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	601	BB	130	13.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	602	GR	68	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	603	CCG	72	5.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	604	CCG	70	3.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	605	CCG	83	6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	606	CCG	72	4.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	607	CCG	73	4.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	608	CCG	63	3.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	609	CCG	54	1.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	610	CCG	62	2.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	611	CCG	66	3.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	612	CCG	63	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	613	CCG	72	5.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	614	CCG	63	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	615	CCG	78	4.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	616	CCG	70	4.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	617	CCG	67	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	618	CCG	62	2.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	619	CCG	47	1.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	620	CH	67	3.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	621	CH	69	4.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	622	CH	67	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	623	CH	59	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	624	CH	59	2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	625	LSU	68	4.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	626	CH	74	4.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	627	GR	48	1.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	628	CH	65	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	629	CH	63	2.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	630	CH	73	4.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	631	CH	82	6.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	632	CH	48	1.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	633	CH	64	2.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	634	AL	140	4.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	635	CCG	25	0.1		N	NS	scale unable to read; weight less than .1; value not used in W-L analysis

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
19-Aug-14	Isaac	AQREF1	EF	636	CCG	29	0.1		N	NS	scale unable to read; weight less than .1; value not used in W-L analysis
19-Aug-14	Isaac	AQREF1	EF	637	CCG	24	0.1		N	NS	scale unable to read; weight less than .1; value not used in W-L analysis
19-Aug-14	Isaac	AQREF1	EF	638	CCG	75	5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	639	CCG	102	10.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	640	CCG	81	6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	641	CCG	75	5.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	642	CCG	70	4.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	643	CCG	74	4.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	644	CCG	77	5.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	645	CCG	54	1.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	646	CCG	72	3.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	647	CCG	54	1.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	648	CCG	73	5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	649	CCG	71	4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	650	CCG	72	4.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	651	CCG	59	2.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	652	CCG	69	4.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	653	CCG	84	7.3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	654	CCG	54	1.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	655	CCG	66	3.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	656	CCG	64	2.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	657	CCG	64	2.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	658	CCG	55	2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	659	CCG	74	4.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	660	CCG	76	5.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	661	CCG	63	2.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	662	CCG	58	2.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	663	CCG	59	2.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	664	CCG	60	2.0		N	NS	
19-Aug-14	Isaac	AQREF1	EF	665	CCG	40	NS		N	NS	
19-Aug-14	Isaac	AQREF1	EF	666	CCG	48	1.2		N	NS	
19-Aug-14	Isaac	AQREF1	EF	667	CCG	56	1.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	668	CCG	19	0.1		N	NS	scale unable to read; weight less than .1; value not used in W-L analysis
19-Aug-14	Isaac	AQREF1	EF	669	CCG	45	0.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	670	BB	134	14.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	671	GR	121	13.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	672	CH	78	4.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	673	CH	63	2.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	674	CH	73	3.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	675	CH	76	4.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	676	CH	71	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	677	CH	65	3.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	678	GR	70	3.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	679	CH	72	3.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	680	CH	70	3.9		N	NS	
19-Aug-14	Isaac	AQREF1	EF	681	CH	70	3.8		N	NS	
19-Aug-14	Isaac	AQREF1	EF	682	GR	60	2.0		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
19-Aug-14	Isaac	AQREF1	EF	683	GR	55	1.4		N	NS	
19-Aug-14	Isaac	AQREF1	EF	684	CH	60	2.5		N	NS	
19-Aug-14	Isaac	AQREF1	EF	685	GR	58	1.6		N	NS	
19-Aug-14	Isaac	AQREF1	EF	686	CH	64	3		N	NS	
19-Aug-14	Isaac	AQREF1	EF	687	CH	58	2.1		N	NS	
19-Aug-14	Isaac	AQREF1	EF	688	CH	57	1.7		N	NS	
19-Aug-14	Isaac	AQREF1	EF	689	CH	65	3.5		N	NS	
21-Aug-14	Isaac	AQREF1	MT	886	CH	78	5.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	887	CH	73	4.7		N	NS	
21-Aug-14	Isaac	AQREF1	MT	888	CH	60	3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	889	CH	72	4.4		N	NS	
21-Aug-14	Isaac	AQREF1	MT	890	CH	69	4.2		N	NS	
21-Aug-14	Isaac	AQREF1	MT	891	CH	62	3.7		N	NS	
21-Aug-14	Isaac	AQREF1	MT	892	CH	73	4.8		N	NS	
21-Aug-14	Isaac	AQREF1	MT	893	CH	77	6.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	894	CH	64	3.8		N	NS	
21-Aug-14	Isaac	AQREF1	MT	895	CH	67	4.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	896	CH	72	4.0		N	NS	
21-Aug-14	Isaac	AQREF1	MT	897	CH	74	3.8		N	NS	
21-Aug-14	Isaac	AQREF1	MT	898	CH	70	4.1		N	NS	
21-Aug-14	Isaac	AQREF1	MT	899	CH	65	3.1		N	NS	
21-Aug-14	Isaac	AQREF1	MT	900	GR	56	1.9		N	NS	
21-Aug-14	Isaac	AQREF1	MT	901	CH	69	3.7		N	NS	
21-Aug-14	Isaac	AQREF1	MT	902	CH	67	3.4		N	NS	
21-Aug-14	Isaac	AQREF1	MT	903	CCG	63	3.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	904	CH	65	3.6		N	NS	
21-Aug-14	Isaac	AQREF1	MT	905	CH	56	2.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	906	CH	70	3.5		N	NS	
21-Aug-14	Isaac	AQREF1	MT	907	CH	67	4.0		N	NS	
21-Aug-14	Isaac	AQREF1	MT	908	CH	72	4.5		N	NS	
21-Aug-14	Isaac	AQREF1	MT	909	CH	60	3.1		N	NS	
21-Aug-14	Isaac	AQREF1	MT	910	CH	62	2.7		N	NS	
21-Aug-14	Isaac	AQREF1	MT	911	CH	68	4.3		N	NS	
21-Aug-14	Isaac	AQREF1	MT	912	CH	66	4.4		N	NS	
21-Aug-14	Isaac	AQREF1	MT	913	CH	67	3.8		N	NS	
21-Aug-14	Isaac	AQREF1	MT	914	CH	65	3.6		N	NS	
21-Aug-14	Isaac	AQREF1	MT	915	CH	63	3.1		N	NS	
21-Aug-14	Isaac	AQREF1	MT	916	CH	63	3.0		N	NS	
21-Aug-14	Isaac	AQREF1	MT	917	CH	67	4.0		N	NS	
21-Aug-14	Isaac	AQREF1	MT	918	CH	NS	NS		N	NS	
21-Aug-14	Isaac	AQREF1	MT	919	CH	NS	NS		N	NS	
21-Aug-14	Isaac	AQREF1	MT	920	CH	NS	NS		N	NS	
21-Aug-14	Isaac	AQREF1	MT	921	CH	NS	NS		N	NS	
21-Aug-14	Isaac	AQREF1	MT	922	CH	NS	NS		N	NS	
24-Aug-14	Independence	AQ11	EF	1-01	GR	234	137.0	989001003464162	N	NS	
24-Aug-14	Independence	AQ11	EF	1-02	GR	200	88.0	989001003464164	N	NS	
24-Aug-14	Independence	AQ11	EF	1-03	GR	225	136	989001003464187	N	NS	
24-Aug-14	Independence	AQ11	EF	1-04	GR	197	86		Y	3	mature male

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
24-Aug-14	Independence	AQ11	EF	1-05	GR	122	17.5		N	NS	too small to tag
25-Aug-14	Coffee	AQ00	MT	0-01	CH	77	5.1		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-02	CH	85	6.6		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-03	CH	83	5.9		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-04	CH	102	11.4		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-05	CH	86	7.3		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-06	CH	85	6.7		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-07	CH	81	6		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-08	CH	82	5.9		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-09	CH	72	4.8		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-10	CH	67	3.9		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-11	CH	68	3.6		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-12	CH	79	6.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-13	CH	81	6.8		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-14	CH	69	4.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-15	CH	110	16.6		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-16	CH	78	5.8		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-17	CH	108	13.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-18	CH	65	3.6		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-19	CH	74	5.1		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-20	CH	72	5.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-21	CH	78	6.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-22	CH	77	4.7		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-23	CH	78	5.5		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-24	CH	74	4.7		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-25	CH	75	4.4		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-26	CH	94	9.7		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-27	CH	72	4.4		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-28	CH	69	5.1		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-29	CH	79	5.5		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-30	CH	79	4.9		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-31	CCG	98	10.8		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-32	CCG	105	11.4		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-33	CCG	92	10.2		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-34	CH	NS	NS		N	NS	only first 30 CH sub-sampled, #s 034 to 0125 were released without processing
25-Aug-14	Coffee	AQ00	MT	0-35	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-36	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-37	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-38	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-39	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-40	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-41	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-42	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-43	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-44	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-45	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-46	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-47	CH	NS	NS		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
25-Aug-14	Coffee	AQ00	MT	0-48	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-49	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-50	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-51	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-52	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-53	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-54	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-55	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-56	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-57	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-58	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-59	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-60	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-61	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-62	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-63	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-64	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-65	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-66	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-67	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-68	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-69	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-70	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-71	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-72	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-73	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-74	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-75	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-76	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-77	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-78	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-79	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-80	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-81	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-82	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-83	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-84	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-85	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-86	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-87	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-88	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-89	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-90	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-91	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-92	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-93	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-94	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-95	CH	NS	NS		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
25-Aug-14	Coffee	AQ00	MT	0-96	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-97	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-98	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-99	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-100	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-101	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-102	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-103	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-104	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-105	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-106	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-107	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-108	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-109	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-110	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-111	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-112	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-113	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-114	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-115	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-116	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-117	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-118	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-119	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-120	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-121	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-122	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-123	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-124	CH	NS	NS		N	NS	
25-Aug-14	Coffee	AQ00	MT	0-125	CH	NS	NS		N	NS	
25-Aug-14	Independence	AQ10	MT	1-06	CH	74	4		N	NS	
25-Aug-14	Independence	AQ10	MT	1-07	CH	96	11.1		N	NS	
25-Aug-14	Independence	AQ10	MT	1-08	CH	79	5.6		N	NS	
25-Aug-14	Independence	AQ10	MT	1-09	CH	68	3.5		N	NS	
25-Aug-14	Independence	AQ10	MT	1-10	CH	68	3.4		N	NS	
25-Aug-14	Independence	AQ10	MT	1-11	CH	78	5.3		N	NS	
25-Aug-14	Independence	AQ10	MT	1-12	CH	72	3.6		N	NS	
25-Aug-14	Independence	AQ10	MT	1-13	CH	82	5.3		N	NS	
25-Aug-14	Independence	AQ10	MT	1-14	CH	62	2.3		N	NS	
25-Aug-14	Independence	AQ10	MT	1-15	CH	74	4.0		N	NS	
25-Aug-14	Halfway	AQ20	EF	2-01	GR	241	167	989001003464182	N	NS	adult female
26-Aug-14	Coffee	AQ00	EF	0-126	CCG	55	1.5		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-127	CCG	92	7.9		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-128	CCG	94	9.1		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-129	CCG	85	5.3		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-130	CCG	95	7.8		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-131	CCG	80	6.3		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-132	CCG	69	3.4		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
26-Aug-14	Coffee	AQ00	EF	0-133	CCG	63	2.6		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-134	CCG	62	2.6		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-135	CCG	44	0.8		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-136	CCG	85	6.6		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-137	CCG	76	3.9		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-138	CCG	56	1.5		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-139	CCG	76	4.4		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-140	CCG	58	1.9		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-141	CCG	80	5.4		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-142	CCG	60	2.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-143	CCG	80	6.3		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-144	CCG	61	2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-145	CCG	65	2.9		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-146	CCG	61	2.1		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-147	CCG	58	2.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-148	CCG	48	1.3		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-149	CCG	60	2.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-150	CH	79	5.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-151	CH	78	4.6		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-152	CH	78	5.1		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-153	CH	71	4.5		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-154	CH	66	3.5		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-155	CH	74	4.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-156	CH	72	4.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-157	CH	77	5.2		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-158	CH	73	4		N	NS	
26-Aug-14	Coffee	AQ00	EF	0-159	CH	68	3.5		N	NS	
26-Aug-14	Independence	AQ10	EF	1-16	GR	257	201.0	989001003464202	N	NS	adult male
26-Aug-14	Independence	AQ10	EF	1-17	GR	296	281	989001003464205	N	NS	adult male
26-Aug-14	Independence	AQ10	EF	1-18	CCG	75	5		N	NS	
26-Aug-14	Independence	AQ10	EF	1-19	CCG	88	8.2		N	NS	
26-Aug-14	Independence	AQ10	EF	1-20	CCG	82	7.7		N	NS	
26-Aug-14	Independence	AQ10	EF	1-21	CCG	79	6.3		N	NS	
26-Aug-14	Independence	AQ10	EF	1-22	CCG	71	4.6		N	NS	
26-Aug-14	Independence	AQ10	EF	1-23	CCG	62	2.3		N	NS	
26-Aug-14	Independence	AQ10	EF	1-24	CCG	77	4.5		N	NS	
26-Aug-14	Independence	AQ10	EF	1-25	CH	82	5.9		N	NS	
26-Aug-14	Independence	AQ10	EF	1-26	CCG	75	6.1		N	NS	
26-Aug-14	Independence	AQ10	EF	1-27	CCG	75	4.9		N	NS	
26-Aug-14	Independence	AQ10	EF	1-28	GR	74	4.3		N	NS	
26-Aug-14	Independence	AQ11	MT	1-29	CH	87	6.7		N	NS	
27-Aug-14	Latte	AQ04	EF	0-160	GR	286	260	989001003464163	N	NS	
27-Aug-14	Latte	AQ04	EF	0-161	GR	357	520.0	989001003464165	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-162	GR	262	212.0	989001003464142	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-163	GR	241	180	989001003464213	N	NS	female
27-Aug-14	Latte	AQ04	EF	0-164	GR	251	195	989001003464152	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-165	GR	293	314	989001003464193	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-166	GR	337	441	989001003464169	N	NS	male

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
27-Aug-14	Latte	AQ04	EF	0-167	GR	297	275	989001003464141	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-168	GR	238	175	989001003464172	N	NS	male
27-Aug-14	Latte	AQ04	EF	0-169	GR	245	161	989001003464146	N	NS	
27-Aug-14	Latte	AQ04	EF	0-170	GR	217	126	989001003464196	N	NS	
27-Aug-14	Latte	AQ04	EF	0-171	GR	285	273.0	989001003464224	N	NS	
27-Aug-14	Latte	AQ04	EF	0-172	GR	267	239.0	989001003464216	N	NS	adult male
27-Aug-14	Latte	AQ04	EF	0-173	GR	277	270	989001003464220	N	NS	adult female
27-Aug-14	Latte	AQ04	EF	0-174	GR	208	107	989001003464137	N	NS	immature
27-Aug-14	Latte	AQ04	EF	0-175	GR	265	224	989001003464156	N	NS	adult female
27-Aug-14	Latte	AQ04	EF	0-176	GR	246	170	989001003464222	N	NS	immature
27-Aug-14	Latte	AQ04	EF	0-177	GR	220	129	989001003464183	N	NS	
27-Aug-14	Latte	AQ04	EF	0-178	GR	233	148		Y	3	male
27-Aug-14	Latte	AQ04	EF	0-179	GR	213	121		Y	4	
27-Aug-14	Coffee	AQ00	FN	0-180	GR	224	122	989001003464210	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-181	GR	252	150.0	989001003464200	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-182	GR	276	224.0	989001003464203	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-183	GR	267	195.0	989001003464175	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-184	GR	262	207.0	989001003464154	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-185	GR	245	129.0	989001003464225	N	NS	
27-Aug-14	Coffee	AQ00	FN	0-186	CH	70	4.5		N	NS	
27-Aug-14	Coffee	AQ00	FN	0-187	CH	69	3.2		N	NS	
27-Aug-14	Coffee	AQ00	FN	0-188	CH	74	4.4		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-189	CH	78	5.5		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-190	CH	78	5.5		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-191	CH	78	5.8		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-192	CH	78	5.0		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-193	CH	79	4.9		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-194	CH	71	4.8		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-195	CH	75	4.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-196	CH	74	4.4		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-197	CH	81	5.7		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-198	CH	79	4.5		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-199	CH	72	3.8		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-200	CH	108	14.9		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-201	CH	83	7.0		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-202	CH	100	11.4		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-203	CH	79	6.5		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-204	CH	77	5.8		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-205	CH	78	5.4		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-206	CH	78	5.3		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-207	CH	79	5.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-208	CH	82	6.5		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-209	CH	74	4.9		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-210	CH	79	6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-211	CH	76	5.8		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-212	CH	77	5.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-213	CH	80	5.4		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-214	CH	77	4.9		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
27-Aug-14	Coffee	AQ02	MT	0-215	CH	79	5.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-216	CH	66	4.3		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-217	CH	77	4.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-218	CH	82	5.6		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-219	CCG	97	10.2		Y	3	
27-Aug-14	Coffee	AQ02	MT	0-220	CCG	90	7		Y	3	
27-Aug-14	Coffee	AQ02	MT	0-221	CCG	81	5.2		Y	2	
27-Aug-14	Coffee	AQ02	MT	0-222	CCG	68	3.2		Y	1	
27-Aug-14	Coffee	AQ02	MT	0-223	CH	NS	NS		N	NS	First 30 chinook were sub-sampled, #s 0-223 to 0-254 were released without processing
27-Aug-14	Coffee	AQ02	MT	0-224	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-225	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-226	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-227	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-228	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-229	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-230	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-231	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-232	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-233	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-234	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-235	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-236	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-237	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-238	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-239	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-240	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-241	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-242	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-243	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-244	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-245	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-246	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-247	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-248	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-249	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-250	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-251	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-252	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-253	CH	NS	NS		N	NS	
27-Aug-14	Coffee	AQ02	MT	0-254	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-255	CCG	112	16.1		Y	4	
28-Aug-14	Coffee	AQ02	EF	0-256	CCG	101	13.8		Y	4	
28-Aug-14	Coffee	AQ02	EF	0-257	CCG	95	9.8		Y	2	
28-Aug-14	Coffee	AQ02	EF	0-258	CCG	96	9.7		Y	5	
28-Aug-14	Coffee	AQ02	EF	0-259	CCG	90	7.8		Y	2	
28-Aug-14	Coffee	AQ02	EF	0-260	CCG	60	1.9		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-261	CCG	78	5.4		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-262	CCG	69	4		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
28-Aug-14	Coffee	AQ02	EF	0-263	CCG	53	1.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-264	CCG	85	6.6		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-265	CCG	84	6.3		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-266	CCG	80	4.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-267	CCG	55	2		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-268	CCG	79	5.6		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-269	CCG	57	1.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-270	CCG	58	2.2		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-271	CCG	79	5.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-272	CCG	39	0.6		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-273	CCG	55	1.5		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-274	CCG	60	2.1		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-275	CCG	54	1.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-276	CCG	62	2.3		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-277	CCG	78	4.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-278	CCG	54	1.9		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-279	CCG	56	2.2		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-280	CCG	52	1.4		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-281	CCG	51	2		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-282	CCG	58	2.0		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-283	CCG	37	0.5		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-284	CCG	40	0.8		N	NS	
28-Aug-14	Coffee	AQ02	EF	0-285	CCG	43	1		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-286	CCG	104	11.2		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-287	CH	74	3.8		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-288	GR	134	19.2		N	NS	too small to tag
28-Aug-14	Coffee	AQ02	FN	0-289	CCG	57	1.9		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-290	CCG	65	2.8		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-291	CCG	56	2.4		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-292	CCG	64	2.8		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-293	CH	78	4.2		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-294	CH	104	11.3		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-295	CH	68	3.8		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-296	CH	85	6.5		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-297	CH	74	4.9		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-298	CH	81	5.5		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-299	CH	71	4.1		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-300	CH	75	4.5		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-301	CH	78	6		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-302	CH	71	4.2		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-303	CH	73	4.0		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-304	CH	74	4.3		N	NS	
28-Aug-14	Coffee	AQ02	FN	0-305	CH	65	2.8		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-306	CH	74	3.8		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-307	CH	75	4.5		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-308	CH	76	5.3		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-309	CH	76	4.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-310	CH	70	3.6		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
28-Aug-14	Coffee	AQ01	MT	0-311	CH	76	5.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-312	CH	70	3.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-313	CH	69	3.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-314	CH	72	4.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-315	CH	65	3.1		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-316	CH	78	5.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-317	CH	77	5.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-318	CH	74	4.6		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-319	CH	78	5.7		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-320	CH	67	3.8		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-321	CH	98	10.7		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-322	CH	77	5.6		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-323	CH	79	6.0		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-324	CH	71	4.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-325	CH	79	5.4		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-326	CH	80	6.2		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-327	CH	67	3.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-328	CH	80	6.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-329	CH	78	6.4		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-330	CH	74	5.1		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-331	CH	68	3.8		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-332	CH	77	4.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-333	CH	79	5.9		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-334	CH	70	4.1		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-335	CH	75	5.8		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-336	CCG	105	10.6		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-337	CH	NS	NS		N	NS	first 30 CH sub-sampled, #s 0-337 to 0-378 released without processing
28-Aug-14	Coffee	AQ01	MT	0-338	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-339	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-340	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-341	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-342	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-343	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-344	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-345	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-346	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-347	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-348	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-349	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-350	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-351	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-352	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-353	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-354	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-355	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-356	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-357	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-358	CH	NS	NS		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
28-Aug-14	Coffee	AQ01	MT	0-359	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-360	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-361	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-362	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-363	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-364	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-365	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-366	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-367	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-368	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-369	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-370	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-371	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-372	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-373	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-374	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-375	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-376	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-377	CH	NS	NS		N	NS	
28-Aug-14	Coffee	AQ01	MT	0-378	CH	NS	NS		N	NS	
28-Aug-14	Independence	AQ10	EF	1-301	CCG	80	5.2		Y	3	
28-Aug-14	Independence	AQ10	EF	1-302	CCG	84	6.8		Y	4	
28-Aug-14	Independence	AQ10	EF	1-303	CCG	90	10.7		Y	3	
28-Aug-14	Independence	AQ10	EF	1-304	CCG	80	7.6		Y	4	
28-Aug-14	Independence	AQ10	EF	1-305	CCG	80	8.5		Y	3	
28-Aug-14	Independence	AQ10	EF	1-306	CCG	80	7.4		Y	4	
28-Aug-14	Independence	AQ10	EF	1-307	CCG	75	5.6		Y	2	
28-Aug-14	Independence	AQ10	EF	1-308	CCG	75	4.8		Y	4	
28-Aug-14	Independence	AQ10	EF	1-309	CCG	60	3.0		N	NS	
28-Aug-14	Independence	AQ10	EF	1-310	CCG	67	4.2		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-01	CCG	82	6.8		Y	4	
28-Aug-14	Isaac	AQREF1	EF	R1-02	CCG	81	5.4		Y	3	
28-Aug-14	Isaac	AQREF1	EF	R1-03	CCG	76	4.6		Y	2	
28-Aug-14	Isaac	AQREF1	EF	R1-04	CCG	68	3.5		Y	2	
28-Aug-14	Isaac	AQREF1	EF	R1-05	CCG	68	2.7		Y	3	
28-Aug-14	Isaac	AQREF1	EF	R1-06	CCG	59	2.7		Y	2	
28-Aug-14	Isaac	AQREF1	EF	R1-07	CCG	63	2.4		Y	2	
28-Aug-14	Isaac	AQREF1	EF	R1-08	CCG	63	3.2		Y	3	
28-Aug-14	Isaac	AQREF1	EF	R1-09	CCG	62	2.8		N	NS	fish not aged; otolith was lost prior to ageing
28-Aug-14	Isaac	AQREF1	EF	R1-10	CCG	44	1.1		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-11	CH	73	3.8		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-12	CH	78	5.4		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-13	CH	75	4.7		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-14	CH	69	3.5		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-15	CH	62	3.0		N	NS	
28-Aug-14	Isaac	AQREF1	EF	R1-16	CH	58	2.8		N	NS	
31-Aug-14	Coffee	AQ00	A	0-379	GR	259	188.0	989001003464177	N	NS	adult female
06-Oct-14	Latte	AQ03	FN	1	CCG	103	13.4		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
06-Oct-14	Latte	AQ03	FN	2	CCG	94	11.6		N	NS	
06-Oct-14	Latte	AQ03	FN	3	CCG	89	8.9		N	NS	
06-Oct-14	Latte	AQ03	FN	4	CCG	99	11.4		N	NS	
06-Oct-14	Latte	AQ03	FN	5	CCG	89	8.6		N	NS	
06-Oct-14	Latte	AQ03	FN	6	CCG	96	10.3		N	NS	
06-Oct-14	Latte	AQ03	FN	7	CCG	105	15.6		N	NS	
06-Oct-14	Latte	AQ03	FN	8	GR	146	31.5		N	NS	
06-Oct-14	Coffee	AQ02	MT	9	CCG	94	8.5		N	NS	
06-Oct-14	Coffee	AQ02	MT	10	CCG	92	8.5		N	NS	
06-Oct-14	Coffee	AQ02	MT	11	CCG	97	10.8		N	NS	
06-Oct-14	Coffee	AQ02	MT	12	CH	81	5.0		N	NS	
06-Oct-14	Coffee	AQ02	MT	13	CH	82	5.2		N	NS	
06-Oct-14	Coffee	AQ02	MT	14	CH	87	5.7		N	NS	
06-Oct-14	Coffee	AQ02	MT	15	CH	74	4.8		N	NS	
06-Oct-14	Coffee	AQ02	MT	16	CH	77	6.2		N	NS	
06-Oct-14	Coffee	AQ02	MT	17	CH	80	5.7		N	NS	
06-Oct-14	Coffee	AQ02	MT	18	CH	76	5.0		N	NS	
06-Oct-14	Coffee	AQ02	MT	19	CH	85	7.0		N	NS	
06-Oct-14	Coffee	AQ02	MT	20	CH	74	3.7		N	NS	
06-Oct-14	Coffee	AQ02	MT	21	CH	81	5.1		N	NS	
06-Oct-14	Coffee	AQ02	MT	22	CH	79	5.0		N	NS	
06-Oct-14	Coffee	AQ02	MT	23	CH	69	3.8		N	NS	
06-Oct-14	Coffee	AQ02	MT	24	CH	85	NS		N	NS	scale froze; weights not collected
06-Oct-14	Coffee	AQ02	MT	25	CH	78	NS		N	NS	scale froze; weights not collected
06-Oct-14	Coffee	AQ02	MT	26	CH	78	NS		N	NS	scale froze; weights not collected
06-Oct-14	Coffee	AQ02	MT	27	CH	89	NS		N	NS	scale froze; weights not collected
06-Oct-14	Coffee	AQ01	MT	28	CCG	98	11.3		N	NS	
06-Oct-14	Coffee	AQ01	MT	29	CCG	102	11.0		N	NS	
06-Oct-14	Coffee	AQ01	MT	30	CH	78	4.9		N	NS	
06-Oct-14	Coffee	AQ01	MT	31	CH	74	3.7		N	NS	
06-Oct-14	Coffee	AQ01	MT	32	CH	77	4.0		N	NS	
06-Oct-14	Coffee	AQ01	MT	33	CH	73	3.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	34	CH	76	4.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	35	CH	82	4.9		N	NS	
06-Oct-14	Coffee	AQ01	MT	36	CH	70	4.0		N	NS	
06-Oct-14	Coffee	AQ01	MT	37	CH	74	4.7		N	NS	
06-Oct-14	Coffee	AQ01	MT	38	CH	88	7.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	39	CH	80	4.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	40	CH	85	6.1		N	NS	
06-Oct-14	Coffee	AQ01	MT	41	CH	73	3.8		N	NS	
06-Oct-14	Coffee	AQ01	MT	42	CH	77	4.7		N	NS	
06-Oct-14	Coffee	AQ01	MT	43	CH	85	7.2		N	NS	
06-Oct-14	Coffee	AQ01	MT	44	CH	75	4.2		N	NS	
06-Oct-14	Coffee	AQ01	MT	45	CH	74	4.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	46	CH	78	5.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	47	CH	69	3.4		N	NS	
06-Oct-14	Coffee	AQ01	MT	48	CH	75	4.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	49	CH	70	4.3		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
06-Oct-14	Coffee	AQ01	MT	50	CH	73	5.6		N	NS	
06-Oct-14	Coffee	AQ01	MT	51	CH	72	4		N	NS	
06-Oct-14	Coffee	AQ01	MT	52	CH	77	4.7		N	NS	
06-Oct-14	Coffee	AQ01	MT	53	CH	85	7.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	54	CH	80	5.0		N	NS	
06-Oct-14	Coffee	AQ01	MT	55	CH	85	6		N	NS	
06-Oct-14	Coffee	AQ01	MT	56	CH	82	5.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	57	CH	78	5.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	58	CH	83	5.7		N	NS	
06-Oct-14	Coffee	AQ01	MT	59	CH	86	7.5		N	NS	
06-Oct-14	Coffee	AQ01	MT	60	CH	NS	NS		N	NS	
06-Oct-14	Coffee	AQ01	MT	61	CH	NS	NS		N	NS	
06-Oct-14	Coffee	AQ01	MT	62	CH	NS	NS		N	NS	
06-Oct-14	Coffee	AQ01	MT	63	CH	NS	NS		N	NS	
06-Oct-14	Coffee	AQ01	MT	64	CH	NS	NS		N	NS	
06-Oct-14	Coffee	AQ00	MT	65	CH	73	4.5		N	NS	
06-Oct-14	Coffee	AQ00	MT	66	CH	74	4.1		N	NS	
06-Oct-14	Coffee	AQ00	MT	67	CH	83	5.5		N	NS	
06-Oct-14	Coffee	AQ00	MT	68	CH	76	4.9		N	NS	
06-Oct-14	Coffee	AQ00	MT	69	CH	79	5.0		N	NS	
06-Oct-14	Coffee	AQ00	MT	70	CH	78	4.2		N	NS	
06-Oct-14	Coffee	AQ00	MT	71	CH	80	5.2		N	NS	
06-Oct-14	Coffee	AQ00	MT	72	CCG	60	2.8		N	NS	
06-Oct-14	Coffee	AQ00	MT	73	CH	72	3.8		N	NS	
06-Oct-14	Coffee	AQ00	MT	74	CH	81	5.5		N	NS	
06-Oct-14	Coffee	AQ00	MT	75	CH	79	5.0		N	NS	
06-Oct-14	Coffee	AQ00	MT	76	CH	75	4.5		N	NS	Fish ID#77 skipped by accident
06-Oct-14	Coffee	AQ00	MT	78	CH	79	4.7		N	NS	
06-Oct-14	Coffee	AQ00	MT	79	CH	84	5.3		N	NS	
06-Oct-14	Coffee	AQ00	MT	80	CH	80	4.8		N	NS	
06-Oct-14	Coffee	AQ00	MT	81	CH	79	4.9		N	NS	
06-Oct-14	Coffee	AQ00	MT	82	CH	77	4.0		N	NS	
06-Oct-14	Coffee	AQ00	MT	83	CH	78	4.9		N	NS	
06-Oct-14	Coffee	AQ00	MT	84	CH	78	5.0		N	NS	
06-Oct-14	Coffee	AQ00	MT	85	CH	74	4.1		N	NS	
06-Oct-14	Coffee	AQ00	MT	86	CH	77	4.0		N	NS	
06-Oct-14	Coffee	AQ00	MT	87	CH	73	4.2		N	NS	
06-Oct-14	Coffee	AQ00	MT	88	CH	80	6.1		N	NS	
06-Oct-14	Coffee	AQ00	MT	89	CH	75	4.4		N	NS	
06-Oct-14	Coffee	AQ00	MT	90	CH	70	4.3		N	NS	
06-Oct-14	Coffee	AQ00	MT	91	CH	84	5.9		N	NS	
06-Oct-14	Isaac	AQREF1	MT	92	CH	70	3.4		N	NS	
06-Oct-14	Isaac	AQREF1	MT	93	CH	80	5.3		N	NS	
06-Oct-14	Isaac	AQREF1	MT	94	CH	78	5.2		N	NS	
06-Oct-14	Isaac	AQREF1	MT	95	CH	73	3.6		N	NS	
06-Oct-14	Isaac	AQREF1	MT	96	CH	69	3.6		N	NS	
06-Oct-14	Isaac	AQREF1	MT	97	CH	68	2.5		N	NS	
06-Oct-14	Isaac	AQREF1	MT	98	CH	68	3.0		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
06-Oct-14	Isaac	AQREF1	MT	99	CH	67	3.5		N	NS	
06-Oct-14	Isaac	AQREF1	MT	100	CH	68	3.9		N	NS	
06-Oct-14	Isaac	AQREF1	MT	101	CH	69	3.1		N	NS	
06-Oct-14	Isaac	AQREF1	MT	102	CH	76	4.5		N	NS	
06-Oct-14	Isaac	AQREF1	MT	103	CH	68	3.1		N	NS	
06-Oct-14	Isaac	AQREF1	MT	104	CH	65	2.8		N	NS	
06-Oct-14	Isaac	AQREF1	MT	105	CH	70	3.4		N	NS	
06-Oct-14	Isaac	AQREF1	MT	106	CH	69	3.7		N	NS	
06-Oct-14	Isaac	AQREF1	MT	107	CH	70	3.4		N	NS	
06-Oct-14	Isaac	AQREF1	MT	108	CH	69	3.6		N	NS	
06-Oct-14	Isaac	AQREF1	MT	109	CH	68	3.0		N	NS	
06-Oct-14	Isaac	AQREF1	MT	110	CH	70	3.6		N	NS	
06-Oct-14	Independence	AQ10	MT	111	CH	78	4.6		N	NS	
06-Oct-14	Independence	AQ10	MT	112	CH	110	14.5		N	NS	
06-Oct-14	Independence	AQ10	MT	113	CH	110	14.4		N	NS	
06-Oct-14	Independence	AQ10	MT	114	CH	79	5.0		N	NS	
06-Oct-14	Independence	AQ10	MT	115	CH	88	7.3		N	NS	
06-Oct-14	Independence	AQ10	MT	116	CH	79	4.5		N	NS	
18-Jun-15	Latte	AQ03	EF	0-00	CCG	97	6.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-01	GR	260	181.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-02	GR	270	211.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-03	GR	272	210.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-04	GR	274	249.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-05	GR	297	320.0		N	NS	
18-Jun-15	Latte	AQ04	EF	0-06	GR	310	350.0		N	NS	
20-Jun-15	YR24	AQ30	EF	3-05	CCG	60	2.2		N	NS	
20-Jun-15	YR24	AQ30	EF	3-02	CCG	62	2.2		N	NS	
20-Jun-15	YR24	AQ30	EF	3-03	CCG	64	2.8		N	NS	
20-Jun-15	YR24	AQ30	EF	3-04	CCG	70	3.1		N	NS	
20-Jun-15	YR24	AQ30	EF	3-01	CCG	77	4.0		N	NS	
21-Jun-15	Latte	AQ03	EF	0-13	CCG	95	9.8		N	NS	
21-Jun-15	Latte	AQ03	EF	0-12	CCG	100	9.9		N	NS	
21-Jun-15	Latte	AQ03	EF	0-10	GR	260	193.0		N	NS	
21-Jun-15	Latte	AQ03	EF	0-11	GR	316	337.0		Y	5	Female.
21-Jun-15	Latte	AQ03	EF	0-7	GR	255	162.0		N	NS	
21-Jun-15	Latte	AQ03	EF	0-8	GR	220	127.2		N	NS	
21-Jun-15	Latte	AQ03	EF	0-9	GR	287	246.0		Y	5	Immature male.
21-Jun-15	Kona Tributary	AQ12	EF	1-01	GR	190	74.9		N	NS	
21-Jun-15	Kona Tributary	AQ12	EF	1-02	GR	248	206.1		N	NS	Immature male.
21-Jun-15	Kona Tributary	AQ12	EF	1-03	GR	160	44.5		N	NS	
22-Jun-15	Coffee	AQ00	A	0-14	GR	300	275.0		N	NS	
22-Jun-15	Coffee	AQ00	A	0-15	GR	315	354.0		N	NS	
22-Jun-15	Coffee	AQ00	A	0-16	GR	320	398.0		N	NS	
22-Jun-15	Coffee	AQ00	A	0-17	GR	340	434.0		N	NS	
22-Jun-15	Independence	AQ10	MT	1-04	CH	90	7.6		N	NS	
22-Jun-15	Coffee	AQ00	A	0-18	GR	270	220.0		N	NS	
22-Jun-15	Coffee	AQ00	A	0-19	GR	290	302.0		N	NS	
22-Jun-15	Coffee	AQ01	A	0-20	GR	302	285.0		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
22-Jun-15	Coffee	AQ01	A	0-21	GR	246	162.0		N	NS	
23-Jun-15	Coffee	AQ00	MT	0-29	CCG	76	3.4		N	NS	
23-Jun-15	Coffee	AQ00	MT	0-27	CCG	85	5.6		N	NS	
23-Jun-15	Coffee	AQ00	MT	0-28	CCG	88	6.6		N	NS	
23-Jun-15	Coffee	AQ01	MT	0-31	CCG	77	5.0		N	NS	
23-Jun-15	Coffee	AQ01	MT	0-30	CCG	100	9.7		N	NS	
23-Jun-15	Latte	AQ04	EF	0-22	GR	299	298.4		Y	4	Male.
23-Jun-15	Latte	AQ04	EF	0-23	GR	278	213.0		Y	4	Male.
23-Jun-15	Latte	AQ04	EF	0-24	GR	270	205.5		N	NS	
23-Jun-15	Latte	AQ04	EF	0-25	GR	272	208.0		Y	5	Female.
23-Jun-15	Latte	AQ04	EF	0-26	GR	273	224.4		Y	5	Male.
23-Jun-15	Isaac	AQREF1	MT	Ref-02	CCG	46	1.3		N	NS	
23-Jun-15	Isaac	AQREF1	MT	Ref-04	CCG	54	2.2		N	NS	
23-Jun-15	Isaac	AQREF1	MT	Ref-06	CCG	63	3.0		N	NS	
23-Jun-15	Isaac	AQREF1	MT	Ref-05	CCG	66	2.8		N	NS	
23-Jun-15	Isaac	AQREF1	MT	Ref-01	CCG	71	4.0		N	NS	
23-Jun-15	Isaac	AQREF1	MT	Ref-03	CCG	87	6.5		N	NS	
24-Jul-15	Halfway	AQ20	EF	1	GR	245	156.0		N	NS	
25-Jul-15	Latte	AQ04	EF	2	GR	340	425.0	989001003464169	Y	8	Adult male.
25-Jul-15	Latte	AQ04	EF	3	GR	240	161.0		Y	5	Immature male.
25-Jul-15	Latte	AQ04	EF	4	GR	355	463.0	989001003464165	Y	8	Adult male.
25-Jul-15	Latte	AQ04	EF	5	GR	310	294.0		Y	7	Adult male.
25-Jul-15	Latte	AQ04	EF	6	GR	258	285.0		Y	6	weight outlier; removed from W-L analyses
25-Jul-15	Latte	AQ04	EF	7	GR	220	123.0		Y	5	
25-Jul-15	Latte	AQ04	EF	8	GR	270	199.0		Y	5	
25-Jul-15	Latte	AQ04	EF	9	GR	235	120.0		Y	4	Immature male.
25-Jul-15	Latte	AQ04	EF	10	GR	300	322.0		Y	8	Adult male.
25-Jul-15	Latte	AQ04	EF	11	GR	270	215.0		Y	7	Immature.
25-Jul-15	Latte	AQ04	EF	12	GR	227	109.0		Y	5	
25-Jul-15	Latte	AQ04	EF	13	GR	286	240.0		Y	6	
25-Jul-15	Latte	AQ04	EF	14	GR	273	230.0		N	NS	Adult female.
25-Jul-15	Latte	AQ04	EF	15	GR	234	130.0		N	NS	Immature
25-Jul-15	Latte	AQ04	EF	16	GR	220	98.0		N	NS	Immature.
25-Jul-15	Latte	AQ04	EF	17	GR	250	166.0		N	NS	
25-Jul-15	Latte	AQ04	EF	18	GR	266	208.0		N	NS	Adult male.
25-Jul-15	Latte	AQ04	EF	19	GR	211	100.0		N	NS	Immature.
25-Jul-15	Latte	AQ04	EF	20	GR	218	99.0		N	NS	Immature.
25-Jul-15	Latte	AQ04	EF	21	GR	240	136.0		N	NS	
25-Jul-15	Latte	AQ04	EF	22	GR	261	175.0		N	NS	Adult female.
25-Jul-15	Latte	AQ04	EF	23	GR	265	217.0		N	NS	Adult female.
25-Jul-15	Latte	AQ04	EF	24	GR	230	120.0		N	NS	Immature male.
25-Jul-15	Latte	AQ04	EF	25	GR	305	276.0		N	NS	Adult male.
25-Jul-15	Latte	AQ04	EF	26	GR	271	227.0		N	NS	Adult male.
25-Jul-15	Latte	AQ04	EF	27	GR	273	213.0		N	NS	Adult female.
25-Jul-15	Latte	AQ04	EF	28	GR	245	165.0		N	NS	Female
25-Jul-15	Latte	AQ04	EF	29	GR	235	141.0		N	NS	Female.
25-Jul-15	Latte	AQ04	EF	30	GR	280	210.0		N	NS	Adult male.
25-Jul-15	Latte	AQ04	EF	31	GR	244	152.0	989001003464222	N	NS	Adult male.

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F4. Fish Biological Characteristics, Coffee Gold Project, 2014-2015

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
25-Jul-15	Latte	AQ04	EF	32	GR	245	170.0		N	NS	
25-Jul-15	Latte	AQ04	EF	33	GR	265	191.0		N	NS	Adult male.
25-Jul-15	Latte	AQ04	EF	34	GR	214	114.0		N	NS	
25-Jul-15	Latte	AQ04	EF	35	GR	223	112.0		N	NS	Female.
25-Jul-15	Latte	AQ04	EF	36	GR	225	114.0		N	NS	Female.
25-Jul-15	Latte	AQ04	EF	37	GR	276	191.0		N	NS	Female.
25-Jul-15	Latte	AQ04	EF	38	GR	244	138.0		N	NS	Female.
25-Jul-15	Latte	AQ04	EF	39	GR	288	244.0	989001003464163	N	NS	Male.
25-Jul-15	Los Angeles	AQREF2	EF	42	CCG	125	24.4		Y	5	
25-Jul-15	Latte	AQ04	EF	40	GR	247	184.0		N	NS	Male
25-Jul-15	Los Angeles	AQREF2	EF	41	GR	251	177.0		Y	4	Sub-adult female.
26-Jul-15	Coffee	AQ00	A	43	GR	320	381.0		Y	7	Male.
26-Jul-15	Coffee	AQ00	A	44	GR	320	355.0		Y	8	
26-Jul-15	Coffee	AQ00	A	45	GR	327	349.0		Y	6	Male.
26-Jul-15	Coffee	AQ00	A	46	GR	227	116.0		Y	4	
26-Jul-15	Coffee	AQ00	A	47	GR	336	414.0		Y	7	Male.
26-Jul-15	Coffee	AQ00	A	48	GR	294	281.0		Y	7	
26-Jul-15	Coffee	AQ00	A	49	GR	333	406.0		Y	9	Male.
26-Jul-15	Coffee	AQ00	A	50	GR	253	155.0		Y	5	Immature male.
26-Jul-15	Coffee	AQ00	A	51	GR	257	179.0		Y	5	Female
26-Jul-15	Coffee	AQ00	A	52	GR	268	205.0		Y	6	Small male.
26-Jul-15	Coffee	AQ00	A	53	GR	250	158.0		Y	5	Male.
26-Jul-15	Coffee	AQ00	A	54	GR	247	153.0		Y	4	Immature male.
26-Jul-15	Coffee	AQ02	A	55	GR	212	93.0		N	NS	
26-Jul-15	Coffee	AQ02	A	56	GR	328	332.0		Y	7	Adult male.
26-Jul-15	Coffee	AQ02	A	57	GR	259	183.0		Y	7	
26-Jul-15	Coffee	AQ02	A	58	GR	300	290.0		N	NS	Adult male.
26-Jul-15	Coffee	AQ02	A	59	GR	270	211.0		N	NS	Adult male.
26-Jul-15	Coffee	AQ02	A	60	GR	285	222.0		N	NS	
26-Jul-15	Coffee	AQ02	A	61	GR	248	160.0		N	NS	
26-Jul-15	Coffee	AQ02	A	62	GR	293	275.0		N	NS	Adult male.
26-Jul-15	Coffee	AQ02	A	63	GR	299	295.0		N	NS	Adult male.
26-Jul-15	Coffee	AQ02	A	64	GR	254	158.0		N	NS	Male.
26-Jul-15	Coffee	AQ02	A	65	GR	220	118.0		N	NS	
26-Jul-15	Coffee	AQ02	A	66	GR	256	163.0		N	NS	
26-Jul-15	Coffee	AQ02	A	67	GR	240	142.0		N	NS	
26-Jul-15	Coffee	AQ02	A	68	GR	230	111.0		N	NS	
26-Jul-15	Coffee	AQ02	A	69	GR	254	163.0		Y	5	Immature male.
26-Jul-15	Coffee	AQ02	A	70	GR	278	211.0		Y	6	Male.
26-Jul-15	Coffee	AQ02	A	71	GR	241	130.0		Y	4	Immature female.
26-Jul-15	Coffee	AQ02	A	72	GR	208	88.0		Y	4	Immature male.
26-Jul-15	Coffee	AQ02	A	73	GR	214	88.0		Y	3	Immature female.
26-Jul-15	Coffee	AQ02	A	74	GR	284	248.0		Y	5	Male.
26-Jul-15	Coffee	AQ01	A	75	GR	283	238.0		N	NS	Male.
26-Jul-15	Coffee	AQ01	A	76	GR	330	430.0		N	NS	Male.
26-Jul-15	Coffee	AQ01	A	77	GR	284	236.0		N	NS	Female.
26-Jul-15	Coffee	AQ01	A	78	GR	269	169.0		N	NS	Female.
26-Jul-15	Coffee	AQ01	A	79	GR	305	290.0		N	NS	Male.

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
26-Jul-15	Coffee	AQ01	A	80	GR	242	147.0		N	NS	
26-Jul-15	Coffee	AQ01	A	81	GR	209	88.0		N	NS	
27-Jul-15	Coffee	AQ00	MT	86	CH	66	2.9		N	NS	
27-Jul-15	Coffee	AQ00	MT	89	CH	67	3.3		N	NS	
27-Jul-15	Coffee	AQ00	FN	90	CH	67	4.1		N	NS	
27-Jul-15	Coffee	AQ00	MT	87	CH	68	3.3		N	NS	
27-Jul-15	Coffee	AQ00	MT	84	CH	68	4.0		N	NS	
27-Jul-15	Coffee	AQ00	MT	88	CH	69	3.5		N	NS	
27-Jul-15	Coffee	AQ00	MT	85	CH	69	4.0		N	NS	
27-Jul-15	Coffee	AQ00	MT	83	CH	72	4.2		N	NS	
27-Jul-15	Coffee	AQ00	MT	82	CH	77	4.9		N	NS	
27-Jul-15	Coffee	AQ01	MT	92	CCG	68	3.2		N	NS	
27-Jul-15	Coffee	AQ01	MT	93	CH	71	3.8		N	NS	
27-Jul-15	Coffee	AQ01	MT	91	CH	74	4.6		N	NS	
27-Jul-15	Coffee	AQ02	MT	98	CCG	61	3.2		N	NS	
27-Jul-15	Coffee	AQ02	EF	100	CCG	62	2.7		N	NS	
27-Jul-15	Coffee	AQ02	EF	103	CCG	66	2.5		N	NS	
27-Jul-15	Coffee	AQ02	EF	101	CCG	67	3.3		N	NS	
27-Jul-15	Coffee	AQ02	MT	94	CCG	90	8.2		Y	4	
27-Jul-15	Coffee	AQ02	EF	105	CCG	69	3.3		N	NS	
27-Jul-15	Coffee	AQ02	MT	96	CCG	90	16.9		Y	4	
27-Jul-15	Coffee	AQ02	EF	102	CCG	94	9.0		Y	7	
27-Jul-15	Coffee	AQ02	EF	104	CCG	74	4.0		N	NS	
27-Jul-15	Coffee	AQ02	MT	95	GR	113	11.5		N	NS	
27-Jul-15	Coffee	AQ02	MT	97	GR	121	15.5		N	NS	
27-Jul-15	Coffee	AQ02	MT	99	GR	135	22.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	205	CCG	65	2.5		Y	2	
28-Jul-15	Isaac	AQREF1	MT	206	CCG	63	2.1		Y	2	
28-Jul-15	Isaac	AQREF1	MT	207	CCG	63	2.3		Y	1	
28-Jul-15	Independence	AQ11	A	106	GR	260	187.0		Y	6	Male.
28-Jul-15	Independence	AQ11	A	107	GR	283	239.7		Y	6	Male.
28-Jul-15	Independence	AQ11	A	108	GR	250	142.9		Y	5	Immature male.
28-Jul-15	Independence	AQ11	A	109	GR	260	174.1		Y	6	Adult female.
28-Jul-15	Independence	AQ11	A	110	GR	175	56.4		Y	3	Immature male.
28-Jul-15	Independence	AQ11	A	111	GR	189	67.9		Y	2	Immature female.
28-Jul-15	Independence	AQ11	A	112	GR	177	60.3		Y	2	Immature female.
28-Jul-15	Independence	AQ11	A	113	GR	180	47.2		Y	3	Immature male.
28-Jul-15	Independence	AQ10	MT	118	CH	62	2.2		N	NS	
28-Jul-15	Independence	AQ10	MT	114	CH	66	2.9		N	NS	
28-Jul-15	Independence	AQ10	MT	116	CH	68	3.3		N	NS	
28-Jul-15	Independence	AQ10	MT	117	CH	73	3.9		N	NS	
28-Jul-15	Independence	AQ10	MT	115	CH	75	4.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	194	CH	51	1.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	134	CH	52	1.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	143	CH	53	1.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	193	CH	53	1.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	198	CH	54	1.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	203	CH	54	1.3		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
28-Jul-15	Isaac	AQREF1	MT	183	CH	54	1.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	135	CH	54	1.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	190	CH	55	1.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	204	CCG	60	2.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	167	CH	55	1.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	185	CH	55	1.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	187	CH	56	2.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	125	CH	57	1.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	147	CH	57	1.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	182	CH	57	1.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	139	CH	57	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	178	CH	57	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	188	CH	58	1.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	184	CH	58	1.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	168	CH	58	1.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	136	CH	58	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	159	CH	59	1.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	146	CH	60	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	156	CH	60	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	189	CH	60	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	195	CH	60	2.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	131	CH	60	2.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	171	CH	60	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	199	CH	60	2.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	158	CH	61	1.7		N	NS	
28-Jul-15	Isaac	AQREF1	MT	122	CH	61	2.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	130	CH	62	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	153	CH	62	2.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	172	CH	62	2.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	119	CH	62	2.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	129	CH	62	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	196	CH	62	2.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	155	CH	62	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	173	CH	62	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	180	CH	63	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	181	CH	63	2.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	162	CH	63	2.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	126	CH	63	2.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	174	CH	63	3.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	141	CH	64	2.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	177	CH	64	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	123	CH	64	2.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	202	CH	64	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	161	CH	65	2.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	152	CH	65	2.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	154	CH	65	2.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	151	CH	65	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	120	CH	65	2.7		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
28-Jul-15	Isaac	AQREF1	MT	169	CH	65	2.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	145	CH	65	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	200	CH	65	3.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	164	CH	65	3.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	163	CH	66	2.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	128	CH	66	2.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	186	CH	66	2.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	166	CH	66	2.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	157	CH	66	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	140	CH	66	3.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	149	CH	66	3.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	192	CH	66	3.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	197	CH	66	3.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	201	CH	66	3.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	179	CH	67	2.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	133	CH	67	3.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	170	CH	67	3.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	165	CH	67	3.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	148	CH	68	2.9		N	NS	
28-Jul-15	Isaac	AQREF1	MT	150	CH	68	3.0		N	NS	
28-Jul-15	Isaac	AQREF1	MT	138	CH	68	3.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	137	CH	68	3.3		N	NS	
28-Jul-15	Isaac	AQREF1	MT	175	CH	68	3.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	132	CH	68	3.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	144	CH	68	4.1		N	NS	
28-Jul-15	Isaac	AQREF1	MT	176	CH	69	3.8		N	NS	
28-Jul-15	Isaac	AQREF1	MT	142	CH	70	3.4		N	NS	
28-Jul-15	Isaac	AQREF1	MT	160	CH	70	4.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	127	CH	72	3.5		N	NS	
28-Jul-15	Isaac	AQREF1	MT	124	CH	74	4.2		N	NS	
28-Jul-15	Isaac	AQREF1	MT	191	CH	74	4.6		N	NS	
28-Jul-15	Isaac	AQREF1	MT	121	CH	75	3.8		N	NS	
29-Jul-15	Latte	AQ03	EF	208	CCG	108	9.2		Y	6	
29-Jul-15	Latte	AQ03	EF	209	GR	128	20.0		N	NS	
31-Jul-15	Latte	AQ03	MT	219	CCG	80	5.0		Y	1	
01-Aug-15	Independence	AQ10	MT	218	CH	59	2.4		N	NS	
01-Aug-15	Independence	AQ10	MT	217	CH	60	2.4		N	NS	
01-Aug-15	Independence	AQ10	MT	214	CH	63	2.6		N	NS	
01-Aug-15	Independence	AQ10	MT	215	CH	65	3.5		N	NS	
01-Aug-15	Independence	AQ10	MT	216	CH	71	3.8		N	NS	
01-Aug-15	Los Angeles	AQREF2	MT	213	CH	74	3.9		N	NS	
01-Aug-15	Los Angeles	AQREF2	MT	211	CH	76	4.6		N	NS	
01-Aug-15	Los Angeles	AQREF2	MT	210	CH	77	4.5		N	NS	
01-Aug-15	Los Angeles	AQREF2	MT	212	CH	85	6.3		N	NS	
10-Sep-15	Los Angeles	AQREF2	A	2	GR	270	199.0		Y	6	
10-Sep-15	Los Angeles	AQREF2	MT	1	CH	85	7.5		N	NS	
12-Sep-15	Latte	AQ03	EF	3	CCG	126	15.5		Y	7	
12-Sep-15	Latte	AQ03	EF	NR	GR	NR	NR		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Date	Watercourse	Site	Method	Fish ID	Species	Length (mm)	Weight (g)	Tag #	Sampled (Y/N)	Age (yrs)	Comments
13-Sep-15	Independence	AQ10	MT	4	CCG	85	9.5		Y	1	
13-Sep-15	Independence	AQ10	MT	5	CH	78	4.8		N	NS	
13-Sep-15	Independence	AQ10	MT	6	CH	77	4.2		N	NS	
13-Sep-15	Independence	AQ10	MT	7	CH	80	5.1		N	NS	
13-Sep-15	Independence	AQ10	MT	8	CH	81	5.9		N	NS	

Notes: EF=Electrofishing, MT=Minnnow trapping, FN=Fyke net, A=Angling; AG=Arctic grayling, CCG=slimy scupin, CH=juvenile Chinook salmon, BB=burbot, LSU=longnose sucker, AL=Arctic lamprey, NS=Not sampled, NR=Not recorded

Appendix F5. Fish tissue metal concentrations, Coffee Gold Project, 2014-2015

Metal	Reported Detection Limit	Date	24-Aug-14	27-Aug-14	27-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14
		Waterbody	Independence	Latte		Isaac								
		Site	AQ11	AQ04		AQREF1								
		Species	GR	GR	GR	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG
		Fish ID	104	0178	0179	R1-1	R1-2	R1-3	R1-4	R1-5	R1-6	R1-7	R1-8	R1-9
Moisture	0.1		76.2	79.1	78.8	72.7	73	72.5	71.7	72.1	72.1	75.2	69.7	74.3
Aluminum	0.4		1.4	1.5	0.8	2.1	11.7	7.8	4.6	11.2	10.7	15.3	27.3	14.9
Antimony	0.002		0.227	0.065	0.099	0.013	0.033	0.023	0.027	0.02	0.019	0.017	0.078	0.016
Arsenic	0.005		0.041	0.027	0.027	0.066	0.07	0.069	0.085	0.087	0.1	0.077	0.191	0.095
Barium	0.01		0.45	0.13	0.05	1.65	4.56	4.47	4.13	2.94	2.71	2.7	4.04	3.89
Beryllium	0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bismuth	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Boron	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	0.2	0.2
Cadmium	0.002		0.029	0.003	0.002	0.007	0.133	0.214	0.225	0.281	0.173	0.144	0.036	0.416
Calcium	2		2390	880	303	6070	22900	21400	18300	14500	14000	10900	11900	15600
Chromium	0.01		0.02	<0.01	<0.01	0.01	0.05	0.05	0.02	0.03	0.03	0.06	0.06	0.04
Cobalt	0.004		0.02	0.008	0.006	0.008	0.04	0.027	0.024	0.016	0.039	0.022	0.033	0.05
Copper	0.01		0.44	0.24	0.27	0.4	0.93	0.83	0.58	0.63	0.73	0.57	0.62	0.52
Iron	1		7	6	4	10	36	27	18	28	30	40	70	41
Lead	0.004		0.064	0.005	0.004	0.005	0.018	0.015	0.021	0.013	0.017	0.015	0.027	0.028
Magnesium	2		332	248	286	341	451	485	462	407	412	359	349	439
Manganese	0.02		0.76	0.36	0.25	4.38	9.12	12	19	7.78	11.3	9.03	7.48	15.5
Mercury	0.002		0.049	0.081	0.071	0.039	0.049	0.038	0.061	0.045	0.032	0.057	0.031	0.04
Molybdenum	0.01		<0.01	<0.01	<0.01	<0.01	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02
Nickel	0.01		0.01	<0.01	<0.01	0.02	0.07	0.08	0.09	0.06	0.1	0.07	0.08	0.11
Phosphorus	5		4010	2530	2660	5350	12500	13400	12100	9730	9530	7670	8330	9920
Potassium	10		4600	3510	4250	3420	3090	3210	3590	3510	3500	3260	3290	3490
Selenium	0.02		1.23	0.66	0.92	0.98	1.26	2.19	1.79	1.56	2.63	1.22	1.45	1.78
Silver	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	2		481	293	284	614	1350	1290	1180	1150	1060	1090	973	1020
Strontium	0.01		2.65	0.95	0.3	9.73	26.4	26.9	22.5	20.4	17.5	14.4	17.7	19.5
Thallium	0.001		0.006	0.003	0.004	0.003	0.004	0.004	0.004	0.004	0.005	0.004	0.002	0.005
Tin	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	0.05		0.35	0.25	0.23	0.41	1.57	1.24	0.98	1.13	1.32	1.32	2.36	1.7
Uranium	0.001		0.001	0.001	<0.001	0.006	0.03	0.017	0.008	0.022	0.007	0.01	0.029	0.01
Vanadium	0.02		<0.02	<0.02	<0.02	0.06	0.24	0.22	0.35	0.16	0.14	0.19	0.24	0.27
Zinc	0.5		11.9	5.1	3.9	20	30.5	31.4	48.9	25.7	28.4	28.5	23.3	40

Notes: All units µg/g, except moisture which is measured as % wet

Recommended fish sample temperatures may have been exceeded during transport to the lab in 2014

GR=Arctic grayling, CCG=slimy sculpin

Appendix F5. Fish tissue metal concentrations, Coffee Gold Project, 2014-2015

Metal	Reported Detection Limit																		
		Date	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	27-Aug-14	27-Aug-14	27-Aug-14	27-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14	28-Aug-14
		Waterbody	Independence								Coffee								
		Site	AQ10								AQ02								
		Species	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG
		Fish ID	I-301	I-302	I-303	I-304	I-305	I-306	I-307	I-308	0219	0220	0221	0222	0223	0224	0225	0226	0227
Moisture	0.1		74.5	68.6	68.2	70.9	71.3	71.6	71	67.1	67.6	76	74.9	73.3	73.8	72.7	76.3	72.9	70.1
Aluminum	0.4		106	3	4.7	26.4	103	13.2	14.3	6.5	5.5	2	2.9	8.5	4.9	2.2	8.2	20.4	13.9
Antimony	0.002		0.011	0.008	0.006	0.007	0.011	0.005	0.007	0.009	0.005	0.006	0.006	0.005	0.029	0.032	0.053	0.025	0.038
Arsenic	0.005		0.173	0.077	0.069	0.097	0.178	0.094	0.089	0.108	0.041	0.057	0.067	0.082	0.074	0.062	0.058	0.096	0.082
Barium	0.01		1.48	1.76	0.59	3.83	3.43	1.8	2.11	1.83	0.53	1.09	0.92	0.91	3.91	1.08	0.55	2.93	2.3
Beryllium	0.002		<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bismuth	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Boron	0.1		0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Cadmium	0.002		0.245	0.053	0.041	0.184	0.191	0.096	0.117	0.05	0.011	0.005	0.006	0.01	0.017	0.003	0.039	0.077	0.015
Calcium	2		4650	12700	3250	23400	16600	10400	13200	11100	2960	7620	6560	5190	21900	7420	2420	16100	10200
Chromium	0.01		0.25	0.01	0.02	0.07	0.22	0.04	0.04	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.05	0.05
Cobalt	0.004		0.079	0.014	0.011	0.04	0.087	0.032	0.026	0.015	0.016	0.01	0.009	0.012	0.019	0.01	0.012	0.03	0.017
Copper	0.01		1.79	0.62	0.47	1.03	1.9	0.72	0.65	0.54	0.46	0.56	0.58	0.5	0.68	0.47	0.72	1.21	0.62
Iron	1		174	11	14	59	167	35	31	19	18	11	12	21	23	12	25	56	31
Lead	0.004		0.063	0.019	0.007	0.029	0.059	0.034	0.019	0.035	<0.004	<0.004	0.007	0.009	0.008	0.008	0.03	0.022	0.02
Magnesium	2		285	355	270	480	404	333	355	345	282	337	331	312	469	299	266	350	321
Manganese	0.02		7.24	6.07	2.02	12.4	12.6	6.86	11.7	5.8	1.28	2.66	1.77	3.35	8.82	2.99	1.49	7.17	5.06
Mercury	0.002		0.088	0.056	0.091	0.066	0.073	0.093	0.041	0.072	0.087	0.078	0.079	0.058	0.107	0.143	0.224	0.092	0.097
Molybdenum	0.01		0.06	0.01	<0.01	0.03	0.07	0.02	0.02	0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	0.01	0.03	<0.01
Nickel	0.01		0.19	0.04	0.04	0.11	0.19	0.08	0.09	0.04	0.02	0.02	0.02	0.03	0.04	0.03	0.04	0.07	0.05
Phosphorus	5		4550	8510	3960	14200	10500	7340	8960	7690	4320	6300	5500	4900	13700	5680	3240	9460	6580
Potassium	10		2910	3000	3120	3060	2990	3090	3310	3080	3230	3410	3340	3340	3380	3220	3200	2790	3010
Selenium	0.02		1.36	0.9	0.93	1.78	2.53	1.07	1.73	1.31	1.32	1.38	1.15	1.14	2.01	0.95	1.41	2.74	1.01
Silver	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	2		954	895	656	1360	1210	992	930	855	744	815	747	707	1150	739	732	1230	731
Strontium	0.01		5.06	14.7	3.88	28.9	18.7	11.6	15.2	12.4	3.63	9.03	8.29	6.3	29.9	8.93	2.82	19	11.9
Thallium	0.001		0.008	0.007	0.008	0.008	0.01	0.008	0.007	0.008	0.004	0.006	0.004	0.005	0.006	0.005	0.008	0.01	0.009
Tin	0.02		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	0.05		7.08	0.68	0.64	2.75	6.93	1.32	1.47	0.9	0.62	0.46	0.61	0.92	1.26	0.47	0.79	1.94	1.24
Uranium	0.001		0.048	0.014	0.008	0.028	0.049	0.018	0.016	0.015	0.022	0.035	0.021	0.031	0.044	0.033	0.029	0.146	0.069
Vanadium	0.02		0.37	0.13	0.07	0.28	0.39	0.1	0.14	0.09	0.06	0.06	0.05	0.07	0.18	0.06	0.11	0.28	0.1
Zinc	0.5		21.5	27.1	21.3	26.4	24.2	22.1	26.7	27.8	14.7	19.2	16	20.1	38.8	29.3	17.3	22.6	32.8

Notes: All units µg/g, except moisture which is measured as % wet

Recommended fish sample temperatures may have been exceeded during transport to the lab in 2014

GR=Arctic grayling, CCG=slimy sculpin

Appendix F5. Fish tissue metal concentrations, Coffee Gold Project, 2014-2015

Metal	Reported Detection Limit	Date	25-Jul-15	11-Sep-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15	21-Jun-15	21-Jun-15	23-Jun-15	23-Jun-15	23-Jun-15	23-Jun-15
		Waterbody	Los Angeles		Independence							Latte					
		Site	AQREF2		AQ11							AQ04					
		Species	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR
		Fish ID	041	002	107	108	109	110	111	112	113	0-9	0-11	0-22	0-23	0-25	0-26
Moisture	0.1		77.6	79.4	78.1	79	78.5	79.7	78.8	79.7	79.5		77.9	79.7	79.9	79.7	79.7
Aluminum	0.4		0.9	2	0.7	1.2	1	2	1.2	1.7	7	2.4	1.4	0.7	0.7	1.7	0.8
Antimony	0.002		0.08	0.272	0.005	<0.002	<0.002	0.006	<0.002	0.003	0.007	0.703	1.16	0.383	0.505	0.201	0.417
Arsenic	0.005		0.069	0.043	0.043	0.046	0.035	0.032	0.035	0.031	0.038	0.027	0.025	0.059	0.042	0.03	0.031
Barium	0.01		0.1	0.17	0.18	0.25	0.06	0.14	0.05	0.15	0.18	0.11	0.18	0.26	0.15	0.07	0.24
Beryllium	0.002		<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bismuth	0.02		<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Boron	0.1		0.3	<0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	0.002		0.004	<0.005	0.003	0.004	0.006	0.008	0.004	0.005	0.008	0.01	0.006	0.004	0.007	0.007	0.007
Calcium	2		656	385	705	1550	218	828	316	687	725	84	400	483	154	81	131
Chromium	0.01		0.04	<0.02	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.03	0.02	0.01	0.02	<0.01	0.06	0.01
Cobalt	0.004		0.019	0.021	0.008	0.013	0.013	0.013	0.012	0.011	0.031	0.014	0.006	0.011	0.011	0.012	0.011
Copper	0.01		0.39	0.39	0.38	0.36	0.32	0.39	0.3	0.28	0.34	0.49	0.36	0.4	0.33	0.46	0.54
Iron	1		5	7	5	6	5	6	4	5	14	7	5	4	4	7	4
Lead	0.004		<0.004	<0.010	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.006	0.009	0.006	<0.004	0.01	0.005	0.006
Magnesium	2		319	305	300	318	279	330	303	330	331	309	299	293	288	291	282
Manganese	0.02		0.53	0.56	0.39	0.7	0.32	0.43	0.23	0.5	0.78	0.36	0.45	0.37	0.3	0.37	0.28
Mercury	0.002		0.065	0.068	0.075	0.051	0.086	0.037	0.042	0.037	0.036	0.108	0.123	0.127	0.107	0.132	0.127
Molybdenum	0.01		<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.01		0.03	0.03	0.06	0.07	0.06	0.07	0.06	0.06	0.06	0.01	0.01	<0.01	0.01	0.01	0.01
Phosphorus	5		3840	3000	3750	4280	3100	4010	3430	3720	3720	2940	3040	3010	2760	2800	2770
Potassium	10		5560	5200	5550	5500	5040	5660	5590	5730	5470	5060	4970	4970	4850	4810	4680
Selenium	0.02		1.69	0.9	1.23	1.51	1.54	1.82	1.44	1.71	2.07	0.85	0.48	0.74	0.94	1.02	1.08
Silver	0.01		<0.01	<0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	2		305	280	310	326	295	315	301	328	356	290	350	369	326	314	392
Strontium	0.01		0.95	0.61	0.84	1.9	0.27	0.91	0.32	0.74	0.84	0.12	0.56	0.68	0.22	0.11	0.19
Thallium	0.001		0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.004	0.007	0.005	0.004	0.004	0.005	0.007	0.006
Tin	0.02		<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	0.05		0.26	0.26	0.25	0.32	0.22	0.34	0.22	0.31	0.6	0.26	0.2	0.15	0.14	0.31	0.15
Uranium	0.001		<0.001	<0.002	0.001	0.001	0.001	0.001	<0.001	0.001	0.003	0.002	0.002	0.002	0.002	0.002	0.001
Vanadium	0.02		<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	0.5		5.2	5.7	5.3	6	6	5.8	5.3	6.3	6.3	7.7	4.5	5	4.1	6.6	6.7

Notes: All units µg/g, except moisture which is measured as % wet

Recommended fish sample temperatures may have been exceeded during transport to the lab in 2014

GR=Arctic grayling, CCG=slimy sculpin

Appendix F5. Fish tissue metal concentrations, Coffee Gold Project, 2014-2015

Metal	Reported Detection Limit	Date	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	26-Jul-15	25-Jul-15	15-Sep-15	01-Aug-15	29-Jul-15	12-Sep-15	27-Jul-15	27-Jul-15	27-Jul-15	28-Jul-15	28-Jul-15	28-Jul-15
		Waterbody	Coffee								Los Angeles	Independence	Latte			Coffee			Isaac		
		Site	AQ00		AQ02						AQREF2	AQ10	AQ03			AQ02			AQREF1		
		Species	GR	GR	GR	GR	GR	GR	GR	GR	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG
		Fish ID	052	054	69	70	71	72	73	74	042	004	219	208	003	94	96	102	205	206	207
Moisture	0.1			78.7	79	78.2	78	77.3	78.8	78.8	78.7	71.2	71			77.1	73.8				
Aluminum	0.4		5.3	1.2	2.2	1.3	3.1	2.1	2.1	2.7	49.7	17.8	30.6	28.3	31.8	112	2.7	37.6	32.5	19.4	3.6
Antimony	0.002		0.034	0.012	0.007	0.005	0.06	0.006	0.053	0.004	0.019	0.965	0.068	0.005	0.182	0.017	0.003	0.012	0.023	0.036	<0.009
Arsenic	0.005		0.068	0.02	0.034	0.032	0.029	0.028	0.029	0.022	0.216	0.107	0.149	0.126	0.119	0.164	0.073	0.118	0.157	0.396	0.097
Barium	0.01		0.18	0.07	0.11	0.1	0.05	0.1	0.12	0.15	3.24	0.66	2.1	4.58	4	3.54	1.51	3.01	3.7	3.71	2.64
Beryllium	0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.004	<0.002	<0.005	0.002	<0.002	<0.002	<0.008	<0.011	<0.009
Bismuth	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.08	<0.11	<0.09
Boron	0.1		0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	<0.2	0.3	0.3	<0.2	0.4	0.4	0.3	0.5	<0.5	<0.5
Cadmium	0.002		0.003	0.003	0.005	0.003	0.005	0.007	0.006	0.005	0.111	0.072	0.059	0.047	0.045	0.057	0.013	0.038	0.087	0.151	0.141
Calcium	2		506	287	584	499	162	508	406	559	12300	1720	8010	16200	17700	7410	6320	8670	9010	12800	8080
Chromium	0.01		0.03	<0.01	0.01	<0.01	0.01	0.04	0.01	0.02	0.22	0.05	0.08	0.08	0.07	0.3	<0.01	0.1	0.13	0.17	<0.05
Cobalt	0.004		0.015	0.009	0.011	0.009	0.014	0.016	0.011	0.009	0.089	0.049	0.055	0.047	0.05	0.105	0.016	0.054	0.038	0.053	0.024
Copper	0.01		0.3	0.34	0.64	0.42	0.43	0.4	0.71	0.38	1.55	0.92	1.21	1.12	1.01	1.26	0.69	0.97	0.73	0.73	0.53
Iron	1		10	4	10	10	10	8	10	9	85	45	45	48	69	154	12	58	57	104	10
Lead	0.004		0.007	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.02	0.016	0.022	0.016	0.022	0.036	<0.004	0.014	0.024	0.088	<0.018
Magnesium	2		284	296	304	322	308	350	304	312	525	292	415	440	546	412	362	409	417	455	385
Manganese	0.02		0.74	0.25	0.33	0.45	0.33	0.48	0.33	0.41	16.2	3.83	7.08	14.4	9.51	14.6	2.89	7.99	8.48	13	7.15
Mercury	0.002		0.09	0.05	0.072	0.062	0.054	0.039	0.055	0.092	0.084	0.069	0.047	0.203	0.213	0.248	0.13	0.22	0.065	0.051	0.031
Molybdenum	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.04	<0.02	0.02	0.03	0.04	0.01	0.02	<0.04	<0.05	<0.05
Nickel	0.01		0.06	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.24	0.07	0.1	0.15	0.08	0.22	0.08	0.13	0.25	0.35	0.25
Phosphorus	5		3330	3300	3890	3840	3650	3980	3830	3830	13700	3830	7690	13000	13400	8450	7430	8460	7670	9340	6610
Potassium	10		5110	5310	5750	5790	5880	5920	5780	5730	4500	4050	3960	3780	4350	4030	4010	3930	3750	3740	3770
Selenium	0.02		1.18	1.29	1.73	1.56	1.31	1.79	1.71	1.42	2.74	2.41	1.88	1.22	1.15	1.76	1.56	1.39	1.4	2.36	1.61
Silver	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.04	<0.05	<0.05
Sodium	2		300	293	353	384	381	446	364	372	1070	867	785	1300	1450	1050	817	899	754	738	686
Strontium	0.01		0.63	0.34	0.64	0.7	0.18	0.6	0.47	0.76	26	1.95	11	24.6	21.4	11.3	10	12.9	13.4	17	10.4
Thallium	0.001		0.006	0.005	0.008	0.004	0.006	0.005	0.006	0.004	0.01	0.007	0.01	0.013	0.011	0.015	0.009	0.011	0.007	0.009	0.006
Tin	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.08	<0.1	<0.09
Titanium	0.05		0.41	0.23	0.34	0.27	0.46	0.35	0.29	0.37	4.41	1.45	2.56	2.51	2.46	7.97	0.71	2.94	2.26	1.24	0.55
Uranium	0.001		0.003	<0.001	0.001	<0.001	0.001	0.002	0.001	0.001	0.011	0.012	0.029	0.175	0.098	0.129	0.032	0.081	0.016	0.021	0.006
Vanadium	0.02		0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.47	0.08	0.22	0.27	0.42	0.43	0.05	0.21	0.27	0.42	0.15
Zinc	0.5		4	5.8	5.2	4.6	7.3	5.5	6.5	5.3	61.4	23.1	29.8	71.7	52.4	51.6	21.1	36	38.2	61.3	33.5

Notes: All units µg/g, except moisture which is measured as % wet

Recommended fish sample temperatures may have been exceeded during transport to the lab in 2014

GR=Arctic grayling, CCG=slimy sculpin

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2014

Stomach Contents	Fish ID		
	104	178	179
Phylum: Arthropoda	0	0	0
Subphylum: Hexapoda	0	0	0
| Class: Insecta	0	0	0
| Order: Ephemeroptera	0	0	0
| Family: Ameletidae	0	0	0
Ameletus	0	0	0
| Family: Baetidae	0	15	1
Acentrella parvula	0	0	0
Acentrella sp.	0	12	0
Acentrella turbida	0	0	0
Baetis	2	5	0
Baetis bicaudatus	0	0	0
| Family: Ephemerellidae	0	0	0
Drunella doddsii	0	0	0
Drunella sp.	0	0	0
Ephemerella	0	0	0
Ephemerella aurivillii	0	0	0
Ephemerella velmae	0	0	0
| Family: Heptageniidae	0	1	0
Cinygmula sp.	0	1	0
Epeorus albertae group	0	0	0
Epeorus sp.	0	0	0
Rhithrogena	0	0	0
	0	0	0
| Order: Plecoptera	0	0	0
| Family: Capniidae	0	0	0
Capnia sp.	0	0	0
| Family: Chloroperlidae	0	0	0
Suwallia	0	0	0
| Family: Nemouridae	0	0	2
Nemoura	0	1	0
Zapada columbiana	0	0	0
| Family: Perlodidae	1	8	0
Diura sp.	0	0	0
Isogenoides sp.	0	0	0
Isoperla sp.	0	0	0
Skwala	0	0	0
	0	0	0
| Order: Trichoptera	0	0	0
| Family: Apataniidae	0	0	0
Apatania	0	0	0
| Family: Brachycentridae	0	0	0
Brachycentrus sp.	0	0	0
| Family: Glossosomatidae	0	0	0

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2014

Stomach Contents	Fish ID		
	104	178	179
Glossosoma	0	0	0
| Family: Hydropsychidae	0	0	0
| Family: Limnephilidae	4	10	12
Ecclisomyia sp.	6	59	81
	0	0	0
| Order: Coleoptera	0	0	0
| Family: Dytiscidae	0	0	0
Agabus sp.	0	0	0
| Family: Staphylinidae	1	2	0
	0	0	0
| Order: Diptera	0	0	0
| Family: Ceratopogonidae	0	0	0
Culicoides	0	0	0
| Family: Chironomidae	418	19	7
| Subfamily: Chironominae	0	0	0
| Tribe: Tanytarsini	0	0	0
Stempellinella sp.	0	0	0
Tanytarsus	0	0	0
| Subfamily: Diamesinae	0	0	0
| Tribe: Diamesini	0	0	0
Diamesa	0	0	0
Pagastia	0	0	0
Potthastia gaedii group	0	0	0
Pseudodiamesa sp.	4	14	5
| Subfamily: Orthocladiinae	0	0	0
Brillia sp.	0	0	0
Eukiefferiella	20	32	4
Hydrobaenus	0	4	2
Metriocnemus sp.	0	0	0
Orthocladius (Euorthocladius)	0	0	0
Orthocladius complex	1	5	0
Orthocladius lignicola	0	0	0
Paraphaenocladius sp.	0	0	0
Rheocricotopus	0	0	0
Tvetenia	19	6	3
| Tribe: Corynoneurini	0	0	0
Corynoneura	0	0	0
| Family: Deuterophlebiidae	0	0	0
Deuterophlebia sp.	0	0	0
| Family: Empididae	0	0	0
Chelifera/ Metachela	0	0	0
Hemerodromia sp.	0	0	0
| Family: Psychodidae	0	0	0
Pericoma/Telmatoscopus sp.	0	1	0

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2014

Stomach Contents	Fish ID		
	104	178	179
| Family: Simuliidae	0	0	0
Gymnopais sp.	1	0	0
Prosimulium	1	1	0
Simulium	0	0	0
| Family: Tipulidae	0	0	0
Dicranota	0	4	2
Tipula	0	1	1
	0	0	0
| Order: Hemiptera	0	1	0
	0	0	0
Subphylum: Crustacea	0	0	0
| Class: Malacostraca	0	0	0
| Order: Amphipoda	0	0	0
| Family: Crangonyctidae	0	0	0
Crangonyx	0	0	0
| Family: Hyalellidae	0	0	0
Hyalella	0	1	1
	0	0	0
Subphylum: Chelicerata	0	0	0
| Class: Arachnida	0	0	0
| Order: Trombidiformes	0	0	0
| Family: Hydryphantidae	0	0	0
Albertathyas	0	0	0
| Family: Sperchontidae	0	0	0
Sperchon	1	6	0
	0	0	0
| Order: Sarcoptiformes	0	0	0
| Family: Hydrozetidae	1	1	0
	0	0	0
Phylum: Mollusca	0	0	0
| Class: Gastropoda	0	0	0
| Order: Basommatophora	0	0	0
| Family: Lymnaeidae	0	0	0
Stagnicola	0	0	0
	0	0	0
| Order: Heterostropha	0	0	0
| Family: Valvatidae	0	0	0
Valvata	0	0	0
	0	0	0
Phylum: Annelida	0	0	0
Subphylum: Clitellata	0	0	0
| Class: Oligochaeta	0	8	0
| Order: Lumbriculida	0	0	0
| Family: Lumbriculidae	0	0	0

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2014

Stomach Contents	Fish ID		
	104	178	179
	0	0	0
| Order: Tubificida	0	0	0
| Family: Enchytraeidae	0	0	0
Mesenchytraeus sp.	0	0	0
Totals:	**480**	**218**	**121**

Taxa present but not included:

Terrestrials	0	3	0
	0	0	0
Phylum: Arthropoda	0	0	0
Subphylum: Hexapoda	0	0	0
| Class: Insecta	0	0	0
| Order: Coleoptera	0	0	0
| Family: Curculionidae	0	0	0
| Subfamily: Scolytinae	1	0	0
	0	0	0
| Class: Entognatha	0	0	0
| Order: Collembola	0	0	0
	0	0	0
Phylum: Nemata	0	0	0
Phylum: Platyhelminthes	0	0	0
| Class: Turbellaria	0	0	0
Totals:	**1**	**3**	**0**

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2015

Stomach Contents	Fish ID				
	AQ02-69	AQ02-70	AQ02-71	AQ02-72	AQ02-73
Phylum: Arthropoda	0	0	0	0	0
Subphylum: Hexapoda	0	0	0	0	0
| Class: Insecta	0	0	0	0	0
| Order: Ephemeroptera	0	0	0	0	0
| Family: Baetidae	146	75	75	24	15
Acentrella sp.	0	0	0	0	0
Baetis	1	1	0	27	14
Baetis bicaudatus	0	1	7	4	0
| Family: Ephemerellidae	0	0	0	0	0
Ephemerella	0	0	0	0	0
| Family: Heptageniidae	0	6	1	3	2
Cinygmula sp.	0	0	0	0	0
Epeorus	0	0	0	0	0
	0	0	0	0	0
| Order: Plecoptera	1	0	0	0	0
| Family: Capniidae	0	0	0	0	0
Capnia sp.	0	0	0	0	0
| Family: Chloroperlidae	4	1	3	1	6
Haploperla sp.	0	0	0	0	0
Suwallia	0	3	2	0	0
| Family: Nemouridae	2	0	0	0	0
Ostrocerca sp.	1	0	0	0	0
Zapada	0	0	0	0	0
| Family: Perlodidae	2	3	2	0	0
	0	0	0	0	0
| Order: Trichoptera	2	1	0	0	0
| Order: Coleoptera	2	0	0	0	0
| Family: Curculionidae	0	0	0	0	0
| Family: Staphylinidae	1	3	1	0	0
	0	0	0	0	0
| Order: Diptera	9	2	10	1	5
| Family: Chironomidae	9	53	7	1	0
| Subfamily: Chironominae	0	0	0	0	0
| Tribe: Chironomini	0	0	0	0	0
Chironomus	0	0	0	0	0
Polypedilum sp.	0	0	0	0	0
| Tribe: Tanytarsini	0	0	0	0	0
Tanytarsus	0	0	1	0	0
| Subfamily: Diamesinae	0	0	0	0	0
| Tribe: Diamesini	0	0	0	0	0
Diamesa	0	0	0	0	0
Pagastia	0	0	0	0	0
Pseudodiamesa sp.	2	8	2	2	0
| Subfamily: Orthocladiinae	0	0	0	0	0

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2015

Stomach Contents	Fish ID				
	AQ02-69	AQ02-70	AQ02-71	AQ02-72	AQ02-73
Eukiefferiella	0	0	0	0	0
Eukiefferiella claripennis group	7	1	2	0	0
Gymnometriocnemus sp.	0	0	0	0	0
Heterotrissocladius sp.	0	0	0	0	0
Heterotrissocladius marcidus grou	0	0	0	0	0
Hydrobaenus	2	1	0	0	0
Limnophyes sp.	10	0	0	0	0
Orthocladius	4	15	1	0	2
Orthocladius lignicola	0	0	0	0	0
Parametriocnemus	0	90	17	12	14
Pseudosmittia sp.	0	0	0	0	0
Rheocricotopus	2	9	1	0	0
Rheosmittia sp.	0	0	0	0	0
Tvetenia	0	0	0	0	0
Tvetenia bavarica group	97	24	12	26	12
| Family: Deuterophlebiidae	0	0	0	0	0
Deuterophlebia sp.	2	4	3	0	0
| Family: Empididae	3	1	9	7	11
Clinocera sp.	37	3	25	7	8
Neoplasta sp.	0	1	0	0	0
| Family: Muscidae	0	0	0	0	0
Limnophora sp.	1	0	0	0	0
| Family: Simuliidae	29	9	5	11	7
Helodon sp.	5	9	4	0	0
Prosimulium	8	6	8	0	0
Simulium	0	0	0	0	0
| Family: Tipulidae	0	1	1	0	0
Dicranota	0	0	0	0	0
Tipula	0	0	0	0	0
	0	0	0	0	0
| Order: Hemiptera	9	0	6	0	2
| Order: Lepidoptera	0	1	1	0	1
| Order: Hymenoptera	0	1	0	0	0
	0	0	0	0	0
Subphylum: Crustacea	0	0	0	0	0
| Class: Malacostraca	0	0	0	0	0
| Order: Amphipoda	0	0	0	0	0
| Family: Gammaridae	0	0	0	0	0
Gammarus	0	0	0	0	0
| Family: Hyalellidae	0	0	0	0	0
Hyalella	0	0	0	0	0
	0	0	0	0	0
Subphylum: Chelicerata	0	0	0	0	0
| Class: Arachnida	0	0	0	0	0

Appendix F6. Arctic grayling stomach samples, Coffee Gold Project, 2015

Stomach Contents	Fish ID				
	AQ02-69	AQ02-70	AQ02-71	AQ02-72	AQ02-73
| Order: Trombidiformes	0	2	3	0	0
| Family: Feltriidae	0	0	0	0	0
Feltria sp.	0	0	0	0	0
| Family: Sperchontidae	0	0	0	0	0
Sperchon	9	0	1	6	2
	0	0	0	0	0
| Order: Oribatei	0	0	0	0	0
| Family: Oribatidae	0	0	0	0	0
Oribatida	0	0	0	0	0
	0	0	0	0	0
Phylum: Mollusca	0	0	0	0	0
| Class: Gastropoda	0	0	0	0	0
	0	0	0	0	0
Phylum: Annelida	0	0	0	0	0
Subphylum: Clitellata	0	0	0	0	0
| Class: Oligochaeta	0	0	0	0	0
| Order: Tubificida	0	0	0	0	0
| Family: Enchytraeidae	0	0	0	0	0
Enchytraeus	0	0	0	0	0
| Family: Naididae	0	0	0	0	0
Nais	0	0	0	0	0
	0	0	0	0	0
Phylum: Tardigrada	0	0	0	0	0
Totals:	**407**	**335**	**210**	**132**	**101**

Taxa present but not included:

Terrestrials	0	1	0	0	0
	0	0	0	0	0
Phylum: Arthropoda	0	0	0	0	0
| Class: Entognatha	0	0	0	0	0
| Order: Collembola	0	0	0	0	0
	0	0	0	0	0
Subphylum: Crustacea	0	0	0	0	0
| Class: Branchiopoda	0	0	0	0	0
| Order: Cladocera	0	0	15	0	0
	0	0	0	0	0
Phylum: Nemata	5	1	6	1	3
Phylum: Platyhelminthes	0	0	0	0	0
| Class: Turbellaria	0	0	0	0	0
Totals:	**5**	**2**	**21**	**1**	**3**

Appendix G

Laboratory Certified Data Reports

- **G1. CARO Analytical**

CERTIFICATE OF ANALYSIS

REPORTED TO	Palmer Environmental Consulting Group Inc. 470 Granville Street - Suite 630 Vancouver, BC V6C 1V5	**TEL** **FAX**	(604) 629-9075 -
ATTENTION	May Quach	**WORK ORDER**	4090358
PO NUMBER		**RECEIVED / TEMP**	Sep-04-14 13:25 / 14°C
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14
PROJECT INFO		**COC NUMBER**	B 24489

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

[signature redacted]

Issued By: **Jennifer Shanko, AScT For Jaime Tkachuk, BSc, PChem**
Account Manager

Please contact CARO if more information is needed or to provide feedback on our services.

Locations:

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Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

www.caro.ca

ANALYSIS INFORMATION

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analysis Description	Method Reference	Technique	Location
Available Cations (Ca/Mg/K/Na)	MSSMA 4.51	1N Ammonium Acetate Extraction, Atomic Spectroscopy	Sublet
Available NH4-N and NO3-N in Soil	Carter 4	Nitrate and Exchangeable Ammonium Nitrogen	Sublet
Carbon, Total Organic in Solids	Carter 21.2	Catalytic Combustion and Infrared Detection	Kelowna
Moisture	ASTM D2974-87 *	Gravimetry (Dried at 105C)	N/A
Particle Size - Dry Sieve Fractions	N/A	N/A - RMD Inorganics	Richmond
pH in Soil (1:2 Soil/Water)	Carter 16.2 / APHA 4500-H+ B	1:2 Soil/Water Slurry / Electrometry	Richmond
Phosphorus, Available (Bray)	UBCPLMM 6.1	Bray Extraction, Colorimetric	Sublet
Strong Acid Leachable Metals	BCMOE SALM V.2 / EPA 6020A	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA	Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation
ASTM	ASTM International Test Methods
Carter	Soil Sampling and Methods of Analysis, 2nd Edition (2007), Carter/Gregorich
EPA	United States Environmental Protection Agency Test Methods
MSSMA	Manual on Soil Sampling and Methods of Analysis, J.A. McKeague
UBCPLMM	Methods Manual, Pedology Laboratory, 1977/1981, L.M. Lavkulich, UBC Department of Soil Science

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
%	Percent
% dry	Percent (dry weight)
% wet	Percent (wet weight)
mg/kg dry	Milligrams per kilogram (dry weight)
pH units	pH < 7 = acidic, ph > 7 = basic

SAMPLE ANALYTICAL DATA

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-1 (4090358-01) [Soil] Sampled: Aug-29-14 10:45						
General Parameters						
Carbon, Total Organic	**4.22**	0.05	% dry	N/A	Sep-10-14	
Moisture	**56.8**	0.1	% wet	N/A	Sep-05-14	
pH	**7.1**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.9**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**4.6**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**8**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2700**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**360**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**77**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**27**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**21200**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**14.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**194**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.33**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7860**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**42.1**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**12.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**21.8**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**28100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**10.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**14.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**8210**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**704**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**26.6**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**703**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1680**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**396**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**55.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**9.1**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-1 (4090358-01) [Soil] Sampled: Aug-29-14 10:45, Continued						
Strong Acid Leachable Metals, Continued						
Tin	**0.8**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1360**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**7.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**61.6**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**86**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**5**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ11-2 (4090358-02) [Soil] Sampled: Aug-29-14 10:45						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**1.7**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**0.8**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**4.1**	0.1	%	N/A	Sep-11-14	
> 600 µm	**6.2**	0.1	%	N/A	Sep-11-14	
> 425 µm	**5.5**	0.1	%	N/A	Sep-11-14	
> 300 µm	**9.8**	0.1	%	N/A	Sep-11-14	
> 150 µm	**20.7**	0.1	%	N/A	Sep-11-14	
> 75 µm	**16.2**	0.1	%	N/A	Sep-11-14	
< 75 µm	**34.9**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ11-3 (4090358-03) [Soil] Sampled: Aug-29-14 10:45						
General Parameters						
Carbon, Total Organic	**2.39**	0.05	% dry	N/A	Sep-10-14	
Moisture	**50.1**	0.1	% wet	N/A	Sep-05-14	
pH	**7.1**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2600**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**315**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**73**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**26**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19200**	20	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-3 (4090358-03) [Soil] Sampled: Aug-29-14 10:45, Continued						
Strong Acid Leachable Metals, Continued						
Antimony	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**15.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**169**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.24**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**6510**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**37.4**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**11.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**19.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**28800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**12.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**14.6**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7620**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**511**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	< 0.05	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**1.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**23.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**685**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1530**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**385**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**44.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**9.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1400**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**6.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**67.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**73**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**5**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ11-4 (4090358-04) [Soil] Sampled: Aug-29-14 10:45						
General Parameters						
Carbon, Total Organic	**2.83**	0.05	% dry	N/A	Sep-10-14	
Moisture	**44.9**	0.1	% wet	N/A	Sep-05-14	
pH	**7.2**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-4 (4090358-04) [Soil] Sampled: Aug-29-14 10:45, Continued						
Fertility / Nutrient Parameters, Continued						
Nitrogen, Nitrate as N, Available	**2.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**310**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**76**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**49**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19200**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**13.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**172**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.38**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7030**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**35.4**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**11.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**19.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**26900**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**10.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**14.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7050**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**656**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**24.0**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**735**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1360**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**367**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**48.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.9**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1260**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**9.0**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**60.9**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**85**	2	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-4 (4090358-04) [Soil] Sampled: Aug-29-14 10:45, Continued						
Strong Acid Leachable Metals, Continued						
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ11-5 (4090358-05) [Soil] Sampled: Aug-29-14 10:45						
General Parameters						
Carbon, Total Organic	**3.34**	0.05	% dry	N/A	Sep-10-14	
Moisture	**56.6**	0.1	% wet	N/A	Sep-05-14	
pH	**5.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**3.9**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2300**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**275**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**61**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**24**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**14.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**178**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.44**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7220**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**35.5**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**11.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**20.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**27800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**11.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**15.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6870**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**680**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**24.7**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**752**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1330**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**342**	40	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-5 (4090358-05) [Soil] Sampled: Aug-29-14 10:45, Continued						
Strong Acid Leachable Metals, Continued						
Strontium	**51.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**9.2**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1150**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**11.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**60.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**92**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ20-1 (4090358-06) [Soil] Sampled: Aug-29-14 12:30						
General Parameters						
Carbon, Total Organic	**6.01**	0.05	% dry	N/A	Sep-10-14	
Moisture	**74.6**	0.1	% wet	N/A	Sep-05-14	
pH	**7.6**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**4.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**4.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**5500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**630**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**118**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**36**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**13.0**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**189**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.20**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**8340**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**36.7**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**19.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**23900**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**7.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**12.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6750**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-1 (4090358-06) [Soil] Sampled: Aug-29-14 12:30, Continued						
Strong Acid Leachable Metals, Continued						
Manganese	**650**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.05**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**24.3**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**681**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1430**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**314**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**81.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.3**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1030**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**13.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**47.7**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**65**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ20-2 (4090358-07) [Soil] Sampled: Aug-29-14 12:30						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**0.1**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**1.9**	0.1	%	N/A	Sep-11-14	
> 600 µm	**4.3**	0.1	%	N/A	Sep-11-14	
> 425 µm	**2.7**	0.1	%	N/A	Sep-11-14	
> 300 µm	**4.0**	0.1	%	N/A	Sep-11-14	
> 150 µm	**12.7**	0.1	%	N/A	Sep-11-14	
> 75 µm	**16.7**	0.1	%	N/A	Sep-11-14	
< 75 µm	**57.5**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ20-3 (4090358-08) [Soil] Sampled: Aug-29-14 12:30						
General Parameters						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-3 (4090358-08) [Soil] Sampled: Aug-29-14 12:30, Continued						
General Parameters, Continued						
Carbon, Total Organic	**4.67**	0.05	% dry	N/A	Sep-10-14	
Moisture	**59.1**	0.1	% wet	N/A	Sep-05-14	
pH	**7.4**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.5**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.4**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4200**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**525**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**69**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**34**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**16000**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**1.0**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**11.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**159**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.13**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7430**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**36.2**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**8.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**18.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**22300**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**7.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**11.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6650**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**294**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	< 0.05	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**22.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**678**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1310**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	< 0.5	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**287**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**69.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.2**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-3 (4090358-08) [Soil] Sampled: Aug-29-14 12:30, Continued						
Strong Acid Leachable Metals, Continued						
Tin	**0.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**920**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**14.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**45.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**62**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ20-4 (4090358-09) [Soil] Sampled: Aug-29-14 12:30						
General Parameters						
Carbon, Total Organic	**4.92**	0.05	% dry	N/A	Sep-10-14	
Moisture	**69.9**	0.1	% wet	N/A	Sep-05-14	
pH	**7.5**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**3.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**5500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**580**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**113**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**39**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17300**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**14.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**185**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.20**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**8220**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**35.7**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**20.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**23500**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**7.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**13.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6780**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**516**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**24.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**727**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-4 (4090358-09) [Soil] Sampled: Aug-29-14 12:30, Continued						
Strong Acid Leachable Metals, Continued						
Potassium	**1350**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**317**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**78.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**973**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**11.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**47.3**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**63**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ03-1 (4090358-10) [Soil] Sampled: Aug-29-14 18:15						
General Parameters						
Carbon, Total Organic	**3.63**	0.05	% dry	N/A	Sep-10-14	
Moisture	**60.4**	0.1	% wet	N/A	Sep-05-14	
pH	**7.6**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.6**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**1800**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**200**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**56**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**17**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**20100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**12.3**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**174**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.31**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7060**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**33.1**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ03-1 (4090358-10) [Soil] Sampled: Aug-29-14 18:15, Continued						
Strong Acid Leachable Metals, Continued						
Copper	**18.8**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**26300**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**11.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**15.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6520**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**771**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.10**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**23.0**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**611**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1280**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.9**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**303**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**70.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**13.0**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1060**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**6.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**53.7**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**86**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ03-2 (4090358-11) [Soil] Sampled: Aug-29-14 18:15						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**2.7**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**1.3**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**9.4**	0.1	%	N/A	Sep-11-14	
> 600 µm	**17.7**	0.1	%	N/A	Sep-11-14	
> 425 µm	**6.8**	0.1	%	N/A	Sep-11-14	
> 300 µm	**6.4**	0.1	%	N/A	Sep-11-14	
> 150 µm	**13.9**	0.1	%	N/A	Sep-11-14	
> 75 µm	**13.5**	0.1	%	N/A	Sep-11-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ03-2 (4090358-11) [Soil] Sampled: Aug-29-14 18:15, Continued						
Particle Size Distribution, Continued						
< 75 µm	**28.4**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ03-3 (4090358-12) [Soil] Sampled: Aug-29-14 18:15						
General Parameters						
Carbon, Total Organic	**4.41**	0.05	% dry	N/A	Sep-10-14	
Moisture	**60.9**	0.1	% wet	N/A	Sep-05-14	
pH	**7.2**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**8.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**11**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4750**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**500**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**133**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**93**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**27500**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**19.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**240**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**1.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.46**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**11100**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**45.9**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**12.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**32.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**32400**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**13.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**23.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7570**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**711**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.23**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**35.9**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**926**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1860**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**2.4**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**308**	40	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ03-3 (4090358-12) [Soil] Sampled: Aug-29-14 18:15, Continued						
Strong Acid Leachable Metals, Continued						
Strontium	**115**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	**1500**	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**22.3**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**1.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**935**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**13.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**53.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**118**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**5**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQREF1-1 (4090358-13) [Soil] Sampled: Aug-28-14 09:20						
General Parameters						
Carbon, Total Organic	**1.93**	0.05	% dry	N/A	Sep-11-14	
Moisture	**64.4**	0.1	% wet	N/A	Sep-05-14	
pH	**5.9**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**1400**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**220**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**39**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**17**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**16600**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**1.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**13.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**380**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.57**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**8190**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**30.3**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**24.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**26400**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**9.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**11.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7830**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-1 (4090358-13) [Soil] Sampled: Aug-28-14 09:20, Continued						
Strong Acid Leachable Metals, Continued						
Manganese	**353**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**23.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**978**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1340**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.8**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**328**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**64.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	**1100**	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.2**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**809**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**5.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**59.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**88**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQREF1-2 (4090358-14) [Soil] Sampled: Aug-28-14 09:20						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**0.1**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**0.7**	0.1	%	N/A	Sep-11-14	
> 600 µm	**2.1**	0.1	%	N/A	Sep-11-14	
> 425 µm	**2.0**	0.1	%	N/A	Sep-11-14	
> 300 µm	**5.4**	0.1	%	N/A	Sep-11-14	
> 150 µm	**34.6**	0.1	%	N/A	Sep-11-14	
> 75 µm	**31.7**	0.1	%	N/A	Sep-11-14	
< 75 µm	**23.3**	0.1	%	N/A	Sep-11-14	
Sample ID: AQREF1-3 (4090358-15) [Soil] Sampled: Aug-28-14 09:20						
General Parameters						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3 (4090358-15) [Soil] Sampled: Aug-28-14 09:20, Continued						
General Parameters, Continued						
Carbon, Total Organic	**2.25**	0.05	% dry	N/A	Sep-11-14	
Moisture	**32.7**	0.1	% wet	N/A	Sep-05-14	
pH	**7.1**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**800**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**110**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**27**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**15**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**11600**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**1.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**17.3**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**267**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.31**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**4680**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**20.5**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**8.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**15.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**23100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**8.0**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**8.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**5700**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**482**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	< 0.05	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**14.5**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**727**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1360**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	< 0.5	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**230**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**40.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**6.2**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3 (4090358-15) [Soil] Sampled: Aug-28-14 09:20, Continued						
Strong Acid Leachable Metals, Continued						
Tin	**1.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**683**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**3.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**51.9**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**62**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQREF1-4 (4090358-16) [Soil] Sampled: Aug-28-14 09:20						
General Parameters						
Carbon, Total Organic	**2.60**	0.05	% dry	N/A	Sep-11-14	
Moisture	**62.1**	0.1	% wet	N/A	Sep-05-14	
pH	**6.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**900**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**155**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**24**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**19**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**2.0**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**25.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**469**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.65**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**8270**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**31.2**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**11.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**25.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**31800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**12.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**11.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7880**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**767**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.05**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**1.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**23.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**1200**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-4 (4090358-16) [Soil] Sampled: Aug-28-14 09:20, Continued						
Strong Acid Leachable Metals, Continued						
Potassium	**1480**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**315**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**63.2**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**9.6**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**1.0**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**838**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**5.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**70.9**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**101**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ00-1 (4090358-17) [Soil] Sampled: Aug-29-14 16:15						
General Parameters						
Carbon, Total Organic	**2.97**	0.05	% dry	N/A	Sep-11-14	
Moisture	**61.8**	0.1	% wet	N/A	Sep-05-14	
pH	**7.0**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2100**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**310**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**57**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**21**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**18800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**8.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**193**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.22**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**6560**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**32.6**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-1 (4090358-17) [Soil] Sampled: Aug-29-14 16:15, Continued						
Strong Acid Leachable Metals, Continued						
Copper	**23.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**25800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**8.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**12.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7340**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**320**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.08**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**20.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**721**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1400**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**355**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**45.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**8.4**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1050**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**17.0**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**61.2**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**72**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ00-2 (4090358-18) [Soil] Sampled: Aug-29-14 16:15						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**0.1**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**1.0**	0.1	%	N/A	Sep-11-14	
> 600 µm	**2.2**	0.1	%	N/A	Sep-11-14	
> 425 µm	**2.2**	0.1	%	N/A	Sep-11-14	
> 300 µm	**6.3**	0.1	%	N/A	Sep-11-14	
> 150 µm	**24.0**	0.1	%	N/A	Sep-11-14	
> 75 µm	**22.3**	0.1	%	N/A	Sep-11-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-2 (4090358-18) [Soil] Sampled: Aug-29-14 16:15, Continued						
Particle Size Distribution, Continued						
< 75 µm	**41.8**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ00-3 (4090358-19) [Soil] Sampled: Aug-29-14 16:15						
General Parameters						
Carbon, Total Organic	**3.63**	0.05	% dry	N/A	Sep-11-14	
Moisture	**54.3**	0.1	% wet	N/A	Sep-05-14	
pH	**7.0**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**1.3**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.2**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**430**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**127**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**36**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19600**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**7.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**192**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.23**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**6310**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**32.7**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**21.5**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**27400**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**6.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**11.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7660**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**567**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**20.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**667**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1420**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**365**	40	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-3 (4090358-19) [Soil] Sampled: Aug-29-14 16:15, Continued						
Strong Acid Leachable Metals, Continued						
Strontium	**45.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**6.2**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1120**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**13.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**63.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**71**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**3**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ00-4 (4090358-20) [Soil] Sampled: Aug-29-14 16:15						
General Parameters						
Carbon, Total Organic	**4.67**	0.05	% dry	N/A	Sep-11-14	
Moisture	**68.3**	0.1	% wet	N/A	Sep-05-14	
pH	**7.3**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.5**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.6**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4000**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**520**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**114**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**47**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**21500**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**11.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**219**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.25**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7280**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**38.7**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**10.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**26.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**28800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**8.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**16.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**8250**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-4 (4090358-20) [Soil] Sampled: Aug-29-14 16:15, Continued						
Strong Acid Leachable Metals, Continued						
Manganese	**374**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.08**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**1.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**26.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**730**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1610**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**410**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**53.9**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**9.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1060**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**24.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**63.6**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**81**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ02-1 (4090358-21) [Soil] Sampled: Aug-28-14 16:25						
General Parameters						
Carbon, Total Organic	**3.51**	0.05	% dry	N/A	Sep-11-14	
Moisture	**54.8**	0.1	% wet	N/A	Sep-05-14	
pH	**7.2**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2100**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**295**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**59**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**27**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19400**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**9.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**205**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-1 (4090358-21) [Soil] Sampled: Aug-28-14 16:25, Continued						
Strong Acid Leachable Metals, Continued						
Boron	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.26**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**7100**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**33.6**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**11.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**22.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**28100**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**7.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**12.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**7460**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**616**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**21.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**788**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1400**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	< 0.5	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**392**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**50.1**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**7.5**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1140**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**13.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**66.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**71**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ02-2 (4090358-22) [Soil] Sampled: Aug-28-14 16:25						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**2.7**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**0.5**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**2.6**	0.1	%	N/A	Sep-11-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-2 (4090358-22) [Soil] Sampled: Aug-28-14 16:25, Continued						
Particle Size Distribution, Continued						
> 600 µm	**5.1**	0.1	%	N/A	Sep-11-14	
> 425 µm	**2.4**	0.1	%	N/A	Sep-11-14	
> 300 µm	**6.0**	0.1	%	N/A	Sep-11-14	
> 150 µm	**17.2**	0.1	%	N/A	Sep-11-14	
> 75 µm	**16.2**	0.1	%	N/A	Sep-11-14	
< 75 µm	**47.3**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ02-3 (4090358-23) [Soil] Sampled: Aug-28-14 16:25						
General Parameters						
Carbon, Total Organic	**2.58**	0.05	% dry	N/A	Sep-11-14	
Moisture	**58.6**	0.1	% wet	N/A	Sep-05-14	
pH	**7.3**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**330**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**83**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**21**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**6.8**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**175**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	< 2	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**0.20**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**6190**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**30.4**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**9.3**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Copper	**17.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**24800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**6.4**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**11.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**6730**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**453**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.05**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**19.0**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**698**	10	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-3 (4090358-23) [Soil] Sampled: Aug-28-14 16:25, Continued						
Strong Acid Leachable Metals, Continued						
Potassium	**1230**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	< 0.5	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**382**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**44.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**6.6**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**1130**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**11.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**58.9**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**62**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Sample ID: AQ02-4 (4090358-24) [Soil] Sampled: Aug-28-14 16:25						
General Parameters						
Carbon, Total Organic	**7.08**	0.05	% dry	N/A	Sep-11-14	
Moisture	**74.5**	0.1	% wet	N/A	Sep-05-14	
pH	**7.2**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**2.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**5000**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**630**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**72**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**30**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**15800**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Arsenic	**11.3**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Barium	**295**	1	mg/kg dry	Sep-08-14	Sep-09-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Boron	**2**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Cadmium	**1.30**	0.04	mg/kg dry	Sep-08-14	Sep-09-14	
Calcium	**11400**	100	mg/kg dry	Sep-08-14	Sep-09-14	
Chromium	**32.4**	1.0	mg/kg dry	Sep-08-14	Sep-09-14	
Cobalt	**9.5**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090358
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-4 (4090358-24) [Soil] Sampled: Aug-28-14 16:25, Continued						
Strong Acid Leachable Metals, Continued						
Copper	**58.3**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Iron	**24600**	20	mg/kg dry	Sep-08-14	Sep-09-14	
Lead	**8.7**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Lithium	**7.1**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Magnesium	**5450**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Manganese	**615**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Mercury	**0.05**	0.05	mg/kg dry	Sep-08-14	Sep-09-14	
Molybdenum	**1.0**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Nickel	**37.4**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Phosphorus	**625**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Potassium	**1190**	10	mg/kg dry	Sep-08-14	Sep-09-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Silicon	< 3000	3000	mg/kg dry	Sep-08-14	Sep-09-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sodium	**387**	40	mg/kg dry	Sep-08-14	Sep-09-14	
Strontium	**89.0**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Sulfur	**1200**	1000	mg/kg dry	Sep-08-14	Sep-09-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Thorium	**7.1**	0.5	mg/kg dry	Sep-08-14	Sep-09-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-08-14	Sep-09-14	
Titanium	**668**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Uranium	**51.4**	0.1	mg/kg dry	Sep-08-14	Sep-09-14	
Vanadium	**49.1**	0.4	mg/kg dry	Sep-08-14	Sep-09-14	
Zinc	**82**	2	mg/kg dry	Sep-08-14	Sep-09-14	
Zirconium	**4**	2	mg/kg dry	Sep-08-14	Sep-09-14	

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PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in fibatchesfl and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types includ

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
General Parameters, Batch B4I0216										
Duplicate (B4I0216-DUP1)		**Source: 4090358-24**		Prepared: Sep-05-14, Analyzed: Sep-05-14						
Moisture	72.8	0.1	% wet		74.5			2.3	40	
General Parameters, Batch B4I0224										
Blank (B4I0224-BLK1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	< 0.05	0.05	% dry							
Blank (B4I0224-BLK2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	< 0.05	0.05	% dry							
Duplicate (B4I0224-DUP1)		**Source: 4090358-01**		Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	4.14	0.05	% dry		4.22			2	30	
Duplicate (B4I0224-DUP2)		**Source: 4090358-20**		Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	4.47	0.05	% dry		4.67			4	30	
Reference (B4I0224-SRM1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	1.62	0.05	% dry	1.33		121	10-231			
Reference (B4I0224-SRM2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	1.51	0.05	% dry	1.33		114	10-231			
General Parameters, Batch B4I0397										
Reference (B4I0397-SRM1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
pH	7.8	0.1	pH units	7.58		103	90-115			
Reference (B4I0397-SRM2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
pH	7.7	0.1	pH units	7.58		102	90-115			
Particle Size Distribution, Batch B4I0469										

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PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes

Particle Size Distribution, Batch B4I0469, Continued

Duplicate (B4I0469-DUP1)	**Source: 4090358-18**		Prepared: Sep-11-14, Analyzed: Sep-11-14					
> 80 mm	< 0.1	0.1	%		< 0.1			30	
> 56 mm	< 0.1	0.1	%		< 0.1			30	
> 40 mm	< 0.1	0.1	%		< 0.1			30	
> 25 mm	< 0.1	0.1	%		< 0.1			30	
> 19 mm	< 0.1	0.1	%		< 0.1			30	
> 12.5 mm	< 0.1	0.1	%		< 0.1			30	
> 4.75 mm	< 0.1	0.1	%		< 0.1			30	
> 2.36 mm	< 0.1	0.1	%		0.1			30	
> 2.0 mm	0.1	0.1	%		< 0.1			30	
> 1.18 mm	0.8	0.1	%		1.0		19	30	
> 600 µm	2.2	0.1	%		2.2		< 1	30	
> 425 µm	2.3	0.1	%		2.2		4	30	
> 300 µm	6.3	0.1	%		6.3		< 1	30	
> 150 µm	24.3	0.1	%		24.0		1	30	
> 75 µm	22.8	0.1	%		22.3		2	30	
< 75 µm	41.2	0.1	%		41.8		2	30	

Strong Acid Leachable Metals, Batch B4I0277

Blank (B4I0277-BLK1)			Prepared: Sep-08-14, Analyzed: Sep-09-14
Aluminum	< 20	20	mg/kg dry
Antimony	< 0.1	0.1	mg/kg dry
Arsenic	< 0.4	0.4	mg/kg dry
Barium	< 1	1	mg/kg dry
Beryllium	< 0.1	0.1	mg/kg dry
Bismuth	< 0.1	0.1	mg/kg dry
Boron	< 2	2	mg/kg dry
Cadmium	< 0.04	0.04	mg/kg dry
Calcium	176	100	mg/kg dry
Chromium	< 1.0	1.0	mg/kg dry
Cobalt	< 0.1	0.1	mg/kg dry
Copper	< 0.2	0.2	mg/kg dry
Iron	< 20	20	mg/kg dry
Lead	< 0.2	0.2	mg/kg dry
Lithium	< 0.1	0.1	mg/kg dry
Magnesium	< 10	10	mg/kg dry
Manganese	< 0.4	0.4	mg/kg dry
Mercury	< 0.05	0.05	mg/kg dry
Molybdenum	< 0.1	0.1	mg/kg dry
Nickel	< 0.4	0.4	mg/kg dry
Phosphorus	< 10	10	mg/kg dry
Potassium	< 10	10	mg/kg dry
Selenium	< 0.5	0.5	mg/kg dry
Silicon	< 3000	3000	mg/kg dry
Silver	< 0.2	0.2	mg/kg dry
Sodium	< 40	40	mg/kg dry
Strontium	< 0.2	0.2	mg/kg dry
Sulfur	< 1000	1000	mg/kg dry
Tellurium	< 0.1	0.1	mg/kg dry
Thallium	< 0.1	0.1	mg/kg dry
Thorium	< 0.5	0.5	mg/kg dry
Tin	< 0.2	0.2	mg/kg dry
Titanium	< 2	2	mg/kg dry
Uranium	< 0.1	0.1	mg/kg dry
Vanadium	< 0.4	0.4	mg/kg dry
Zinc	< 2	2	mg/kg dry

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B4I0277, Continued										
Blank (B4I0277-BLK1), Continued				Prepared: Sep-08-14, Analyzed: Sep-09-14						
Zirconium	< 2	2	mg/kg dry							
Blank (B4I0277-BLK2)				Prepared: Sep-08-14, Analyzed: Sep-09-14						
Aluminum	< 20	20	mg/kg dry							
Antimony	< 0.1	0.1	mg/kg dry							
Arsenic	< 0.4	0.4	mg/kg dry							
Barium	< 1	1	mg/kg dry							
Beryllium	< 0.1	0.1	mg/kg dry							
Bismuth	< 0.1	0.1	mg/kg dry							
Boron	< 2	2	mg/kg dry							
Cadmium	< 0.04	0.04	mg/kg dry							
Calcium	< 100	100	mg/kg dry							
Chromium	< 1.0	1.0	mg/kg dry							
Cobalt	< 0.1	0.1	mg/kg dry							
Copper	< 0.2	0.2	mg/kg dry							
Iron	< 20	20	mg/kg dry							
Lead	< 0.2	0.2	mg/kg dry							
Lithium	< 0.1	0.1	mg/kg dry							
Magnesium	< 10	10	mg/kg dry							
Manganese	< 0.4	0.4	mg/kg dry							
Mercury	< 0.05	0.05	mg/kg dry							
Molybdenum	< 0.1	0.1	mg/kg dry							
Nickel	< 0.4	0.4	mg/kg dry							
Phosphorus	< 10	10	mg/kg dry							
Potassium	< 10	10	mg/kg dry							
Selenium	< 0.5	0.5	mg/kg dry							
Silicon	< 3000	3000	mg/kg dry							
Silver	< 0.2	0.2	mg/kg dry							
Sodium	< 40	40	mg/kg dry							
Strontium	< 0.2	0.2	mg/kg dry							
Sulfur	< 1000	1000	mg/kg dry							
Tellurium	< 0.1	0.1	mg/kg dry							
Thallium	< 0.1	0.1	mg/kg dry							
Thorium	< 0.5	0.5	mg/kg dry							
Tin	< 0.2	0.2	mg/kg dry							
Titanium	< 2	2	mg/kg dry							
Uranium	< 0.1	0.1	mg/kg dry							
Vanadium	< 0.4	0.4	mg/kg dry							
Zinc	< 2	2	mg/kg dry							
Zirconium	< 2	2	mg/kg dry							
Duplicate (B4I0277-DUP2)				**Source: 4090358-17**	Prepared: Sep-08-14, Analyzed: Sep-09-14					
Aluminum	19700	20	mg/kg dry		18800			5	24	
Antimony	0.7	0.1	mg/kg dry		0.7			2	60	
Arsenic	9.3	0.4	mg/kg dry		8.8			5	42	
Barium	202	1	mg/kg dry		193			5	38	
Beryllium	0.4	0.1	mg/kg dry		0.5			3	37	
Bismuth	0.2	0.1	mg/kg dry		0.2				33	
Boron	2	2	mg/kg dry		2				29	
Cadmium	0.23	0.04	mg/kg dry		0.22			2	32	
Calcium	7000	100	mg/kg dry		6560			7	33	
Chromium	34.5	1.0	mg/kg dry		32.6			6	32	
Cobalt	10.5	0.1	mg/kg dry		10.1			3	26	
Copper	24.4	0.2	mg/kg dry		23.3			4	38	
Iron	26900	20	mg/kg dry		25800			4	28	
Lead	8.8	0.2	mg/kg dry		8.4			5	46	
Lithium	13.4	0.1	mg/kg dry		12.5			7	28	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B4I0277, Continued										
Duplicate (B4I0277-DUP2), Continued		**Source: 4090358-17**		Prepared: Sep-08-14, Analyzed: Sep-09-14						
Magnesium	7650	10	mg/kg dry		7340			4	23	
Manganese	333	0.4	mg/kg dry		320			4	23	
Mercury	0.07	0.05	mg/kg dry		0.08				42	
Molybdenum	1.0	0.1	mg/kg dry		0.9			16	52	
Nickel	21.7	0.4	mg/kg dry		20.8			4	29	
Phosphorus	753	10	mg/kg dry		721			4	20	
Potassium	1440	10	mg/kg dry		1400			3	28	
Selenium	0.5	0.5	mg/kg dry		0.5				19	
Silicon	< 3000	3000	mg/kg dry		< 3000				18	
Silver	< 0.2	0.2	mg/kg dry		< 0.2				35	
Sodium	383	40	mg/kg dry		355			8	23	
Strontium	48.4	0.2	mg/kg dry		45.9			5	25	
Sulfur	< 1000	1000	mg/kg dry		< 1000				26	
Tellurium	< 0.1	0.1	mg/kg dry		< 0.1				38	
Thallium	0.2	0.1	mg/kg dry		0.2				27	
Thorium	7.4	0.5	mg/kg dry		8.4			12	39	
Tin	0.7	0.2	mg/kg dry		0.6				85	
Titanium	1160	2	mg/kg dry		1050			11	29	
Uranium	18.1	0.1	mg/kg dry		17.0			6	36	
Vanadium	64.5	0.4	mg/kg dry		61.2			5	23	
Zinc	74	2	mg/kg dry		72			3	30	
Zirconium	4	2	mg/kg dry		4				32	
Reference (B4I0277-SRM1)				Prepared: Sep-08-14, Analyzed: Sep-09-14						
Aluminum	19400	20	mg/kg dry	18200		107	86-118			
Antimony	6.8	0.1	mg/kg dry	6.27		108	73-138			
Arsenic	15.6	0.4	mg/kg dry	15.4		102	87-106			
Barium	82	1	mg/kg dry	80.6		101	72-119			
Beryllium	0.7	0.1	mg/kg dry	0.544		124	73-128			
Bismuth	1.9	0.1	mg/kg dry	2.12		91	78-97			
Boron	3	2	mg/kg dry	2.68		122	58-139			
Cadmium	0.21	0.04	mg/kg dry	0.230		93	88-121			
Calcium	3700	100	mg/kg dry	3320		112	92-113			
Chromium	29.5	1.0	mg/kg dry	27.2		108	91-113			
Cobalt	13.3	0.1	mg/kg dry	12.5		106	90-109			
Copper	47.6	0.2	mg/kg dry	44.9		106	92-112			
Iron	35600	20	mg/kg dry	33300		107	91-112			
Lead	13.3	0.2	mg/kg dry	14.4		92	89-111			
Lithium	10.4	0.1	mg/kg dry	9.26		113	73-124			
Magnesium	6500	10	mg/kg dry	5830		112	89-116			
Manganese	1180	0.4	mg/kg dry	1100		107	93-112			
Mercury	0.10	0.05	mg/kg dry	0.0980		102	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		95	93-120			
Nickel	18.8	0.4	mg/kg dry	17.4		108	93-110			
Phosphorus	790	10	mg/kg dry	796		99	86-111			
Potassium	684	10	mg/kg dry	619		111	83-117			
Sodium	406	40	mg/kg dry	340		119	79-130			
Strontium	12.5	0.2	mg/kg dry	11.6		107	85-116			
Thorium	4.0	0.5	mg/kg dry	4.46		90	78-100			
Tin	1.1	0.2	mg/kg dry	1.10		98	78-120			
Titanium	899	2	mg/kg dry	764		118	72-143			
Uranium	0.9	0.1	mg/kg dry	0.940		92	80-102			
Vanadium	60.0	0.4	mg/kg dry	54.9		109	87-116			
Zinc	74	2	mg/kg dry	67.5		109	91-113			
Reference (B4I0277-SRM2)				Prepared: Sep-08-14, Analyzed: Sep-09-14						
Aluminum	19200	20	mg/kg dry	18200		106	86-118			

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090358
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B4I0277, Continued										
Reference (B4I0277-SRM2), Continued				Prepared: Sep-08-14, Analyzed: Sep-09-14						
Antimony	6.7	0.1	mg/kg dry	6.27		107	73-138			
Arsenic	15.7	0.4	mg/kg dry	15.4		102	87-106			
Barium	82	1	mg/kg dry	80.6		102	72-119			
Beryllium	0.6	0.1	mg/kg dry	0.544		107	73-128			
Bismuth	1.9	0.1	mg/kg dry	2.12		89	78-97			
Boron	3	2	mg/kg dry	2.68		120	58-139			
Cadmium	0.20	0.04	mg/kg dry	0.230		88	88-121			
Calcium	3400	100	mg/kg dry	3320		102	92-113			
Chromium	29.2	1.0	mg/kg dry	27.2		107	91-113			
Cobalt	13.3	0.1	mg/kg dry	12.5		106	90-109			
Copper	47.4	0.2	mg/kg dry	44.9		106	92-112			
Iron	35500	20	mg/kg dry	33300		107	91-112			
Lead	13.4	0.2	mg/kg dry	14.4		93	89-111			
Lithium	9.6	0.1	mg/kg dry	9.26		103	73-124			
Magnesium	6350	10	mg/kg dry	5830		109	89-116			
Manganese	1170	0.4	mg/kg dry	1100		106	93-112			
Mercury	0.10	0.05	mg/kg dry	0.0980		104	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		96	93-120			
Nickel	18.6	0.4	mg/kg dry	17.4		107	93-110			
Phosphorus	783	10	mg/kg dry	796		98	86-111			
Potassium	696	10	mg/kg dry	619		112	83-117			
Sodium	388	40	mg/kg dry	340		114	79-130			
Strontium	11.9	0.2	mg/kg dry	11.6		103	85-116			
Thorium	4.2	0.5	mg/kg dry	4.46		93	78-100			
Tin	1.1	0.2	mg/kg dry	1.10		96	78-120			
Titanium	920	2	mg/kg dry	764		120	72-143			
Uranium	0.9	0.1	mg/kg dry	0.940		93	80-102			
Vanadium	58.8	0.4	mg/kg dry	54.9		107	87-116			
Zinc	74	2	mg/kg dry	67.5		109	91-113			

CERTIFICATE OF ANALYSIS

REPORTED TO	Palmer Environmental Consulting Group Inc. 470 Granville Street - Suite 630 Vancouver, BC V6C 1V5	**TEL** **FAX**	(604) 629-9075 -
ATTENTION	May Quach	**WORK ORDER**	4090397
PO NUMBER		**RECEIVED / TEMP**	Sep-04-14 13:25 / 14°C
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14
PROJECT INFO		**COC NUMBER**	B 24486

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Issued By: **Jennifer Shanko, AScT For Jaime Tkachuk, BSc, PChem**
Account Manager

Please contact CARO if more information is needed or to provide feedback on our services.

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ANALYSIS INFORMATION

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analysis Description	Method Reference	Technique	Location
Available Cations (Ca/Mg/K/Na)	MSSMA 4.51	1N Ammonium Acetate Extraction, Atomic Spectroscopy	Sublet
Available NH4-N and NO3-N in Soil	Carter 4	Nitrate and Exchangeable Ammonium Nitrogen	Sublet
Carbon, Total Organic in Solids	Carter 21.2	Catalytic Combustion and Infrared Detection	Kelowna
Particle Size - Dry Sieve Fractions	N/A	N/A - RMD Inorganics	Richmond
pH in Soil (1:2 Soil/Water)	Carter 16.2 / APHA 4500-H+ B	1:2 Soil/Water Slurry / Electrometry	Richmond
Phosphorus, Available (Bray)	UBCPLMM 6.1	Bray Extraction, Colorimetric	Sublet
Strong Acid Leachable Metals	BCMOE SALM V.2 / EPA 6020A	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond

Method Reference Descriptions:

APHA	Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation
Carter	Soil Sampling and Methods of Analysis, 2nd Edition (2007), Carter/Gregorich
EPA	United States Environmental Protection Agency Test Methods
MSSMA	Manual on Soil Sampling and Methods of Analysis, J.A. McKeague
UBCPLMM	Methods Manual, Pedology Laboratory, 1977/1981, L.M. Lavkulich, UBC Department of Soil Science

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
%	Percent
% dry	Percent (dry weight)
mg/kg dry	Milligrams per kilogram (dry weight)
pH units	pH < 7 = acidic, ph > 7 = basic

SAMPLE ANALYTICAL DATA

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-1 (4090397-01) [Soil] Sampled: Aug-30-14 08:40						
General Parameters						
Carbon, Total Organic	**6.12**	0.05	% dry	N/A	Sep-11-14	
pH	**5.7**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**5.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**9.7**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**267**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**192**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**37**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**20600**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**21.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**176**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.58**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**6000**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**32.1**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**13.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**18.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**29600**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**14.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**21.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5030**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**1030**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.17**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**21.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**602**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**904**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**1.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**260**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**46.9**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	**1200**	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**14.7**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-1 (4090397-01) [Soil] Sampled: Aug-30-14 08:40, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**894**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**20.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**55.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**108**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**5**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ04-2 (4090397-02) [Soil] Sampled: Aug-30-14 08:40						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**7.2**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**1.0**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**5.4**	0.1	%	N/A	Sep-11-14	
> 600 µm	**13.4**	0.1	%	N/A	Sep-11-14	
> 425 µm	**8.3**	0.1	%	N/A	Sep-11-14	
> 300 µm	**8.3**	0.1	%	N/A	Sep-11-14	
> 150 µm	**13.2**	0.1	%	N/A	Sep-11-14	
> 75 µm	**10.1**	0.1	%	N/A	Sep-11-14	
< 75 µm	**33.2**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ04-3 (4090397-03) [Soil] Sampled: Aug-30-14 08:40						
General Parameters						
Carbon, Total Organic	**5.99**	0.05	% dry	N/A	Sep-11-14	
pH	**6.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.5**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**1050**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**150**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**38**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**21**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**16500**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**20.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-3 (4090397-03) [Soil] Sampled: Aug-30-14 08:40, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**225**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	< 2	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.42**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**5770**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**31.4**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**22.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**15.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**27400**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**13.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**13.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5410**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**4140**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.11**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**1.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**20.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**568**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**941**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**246**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**44.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**12.2**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**920**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**10.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**56.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**79**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ04-4 (4090397-04) [Soil] Sampled: Aug-30-14 08:40						
General Parameters						
Carbon, Total Organic	**7.00**	0.05	% dry	N/A	Sep-11-14	
pH	**6.9**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**13.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-4 (4090397-04) [Soil] Sampled: Aug-30-14 08:40, Continued						
Exchangeable Ions						
Calcium, Available	**3750**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**475**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**183**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**50**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**20300**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**28.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**177**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**1.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.56**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7120**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**32.5**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**12.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**22.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**29200**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**13.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**24.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5150**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**1050**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.17**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**22.7**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**624**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**899**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**1.3**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**240**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**59.3**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**15.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**1.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**758**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**26.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**56.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**111**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ13-1 (4090397-05) [Soil] Sampled: Aug-30-14 10:30						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-1 (4090397-05) [Soil] Sampled: Aug-30-14 10:30, Continued						
General Parameters						
Carbon, Total Organic	**4.87**	0.05	% dry	N/A	Sep-11-14	
pH	**6.9**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4200**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**225**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**104**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**27**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**25.5**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**149**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	< 2	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.17**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7660**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**56.9**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**21.0**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**26000**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**9.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**16.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**8050**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**540**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**32.4**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**479**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**2110**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**308**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**54.0**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**1.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-1 (4090397-05) [Soil] Sampled: Aug-30-14 10:30, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1240**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**7.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**51.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**65**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ13-2 (4090397-06) [Soil] Sampled: Aug-30-14 10:30						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**1.6**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**0.7**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**3.3**	0.1	%	N/A	Sep-11-14	
> 600 µm	**7.4**	0.1	%	N/A	Sep-11-14	
> 425 µm	**5.9**	0.1	%	N/A	Sep-11-14	
> 300 µm	**7.4**	0.1	%	N/A	Sep-11-14	
> 150 µm	**17.7**	0.1	%	N/A	Sep-11-14	
> 75 µm	**18.9**	0.1	%	N/A	Sep-11-14	
< 75 µm	**37.1**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ13-3 (4090397-07) [Soil] Sampled: Aug-30-14 10:30						
General Parameters						
Carbon, Total Organic	**5.17**	0.05	% dry	N/A	Sep-11-14	
pH	**6.6**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.2**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**10**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**3650**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**200**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**91**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**29**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19300**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**21.5**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-3 (4090397-07) [Soil] Sampled: Aug-30-14 10:30, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**151**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	< 2	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.19**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7460**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**51.8**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**19.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**25100**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**10.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**14.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**7290**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**632**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**29.9**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**498**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1890**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**288**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**52.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**1.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**1130**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**6.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**49.4**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**66**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**4**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ13-4 (4090397-08) [Soil] Sampled: Aug-30-14 10:30						
General Parameters						
Carbon, Total Organic	**4.34**	0.05	% dry	N/A	Sep-10-14	
pH	**6.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.4**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**9**	2	mg/kg dry	N/A	Sep-12-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-4 (4090397-08) [Soil] Sampled: Aug-30-14 10:30, Continued						
Exchangeable Ions						
Calcium, Available	**3700**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**230**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**114**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**26**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19200**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**23.9**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**149**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.16**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7480**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**54.3**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**19.9**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**24900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**9.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**14.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**7590**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**558**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**31.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**486**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1960**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**291**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**52.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.3**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**1.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**1200**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**6.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**48.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**64**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ13-5 (4090397-09) [Soil] Sampled: Aug-30-14 10:30						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-5 (4090397-09) [Soil] Sampled: Aug-30-14 10:30, Continued						
General Parameters						
Carbon, Total Organic	**4.20**	0.05	% dry	N/A	Sep-10-14	
pH	**6.4**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	< 1.0	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**3.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**7**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**3400**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**180**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**130**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**19**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19700**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**24.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**154**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	< 2	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.15**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7920**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**60.1**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**12.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**21.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**26300**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**9.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**14.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**8050**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**520**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.08**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**34.8**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**543**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**2280**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.6**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**325**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**53.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**12.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**1.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-5 (4090397-09) [Soil] Sampled: Aug-30-14 10:30, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1220**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**7.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**50.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**61**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ10-1 (4090397-10) [Soil] Sampled: Aug-29-14 09:10						
General Parameters						
Carbon, Total Organic	**3.49**	0.05	% dry	N/A	Sep-10-14	
pH	**7.1**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**4.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2000**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**255**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**78**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**26**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**16.2**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**199**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.51**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7760**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**35.9**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**12.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**22.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**27700**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**19.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**6430**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**776**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.11**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**26.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**744**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1270**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.9**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-1 (4090397-10) [Soil] Sampled: Aug-29-14 09:10, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**317**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**52.0**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**10.3**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**1050**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**14.0**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**59.4**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**88**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ10-2 (4090397-11) [Soil] Sampled: Aug-29-14 09:10						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**0.2**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**0.2**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**1.9**	0.1	%	N/A	Sep-11-14	
> 600 µm	**6.3**	0.1	%	N/A	Sep-11-14	
> 425 µm	**8.2**	0.1	%	N/A	Sep-11-14	
> 300 µm	**13.4**	0.1	%	N/A	Sep-11-14	
> 150 µm	**24.3**	0.1	%	N/A	Sep-11-14	
> 75 µm	**14.7**	0.1	%	N/A	Sep-11-14	
< 75 µm	**30.7**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ10-3 (4090397-12) [Soil] Sampled: Aug-29-14 09:10						
General Parameters						
Carbon, Total Organic	**2.74**	0.05	% dry	N/A	Sep-10-14	
pH	**6.9**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**6.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.4**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Sep-12-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-3 (4090397-12) [Soil] Sampled: Aug-29-14 09:10, Continued						
Exchangeable Ions						
Calcium, Available	**2000**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**260**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**70**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**20**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**16100**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**16.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**165**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.27**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**6790**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**34.4**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**10.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**19.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**25000**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**11.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**16.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**6410**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**498**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**23.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**683**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1200**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**301**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**43.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**9.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**1020**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**9.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**55.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**76**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ10-4 (4090397-13) [Soil] Sampled: Aug-29-14 09:10						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-4 (4090397-13) [Soil] Sampled: Aug-29-14 09:10, Continued						
General Parameters						
Carbon, Total Organic	**2.34**	0.05	% dry	N/A	Sep-10-14	
pH	**7.2**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**6.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.2**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**360**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**111**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**55**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**17800**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**12.7**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**180**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.35**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**6980**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**35.8**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**18.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**26800**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**11.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**19.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**6540**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**615**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**24.9**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**670**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1240**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.9**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**319**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**46.9**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**9.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-4 (4090397-13) [Soil] Sampled: Aug-29-14 09:10, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1160**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**11.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**57.2**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**85**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ10-5 (4090397-14) [Soil] Sampled: Aug-29-14 09:10						
General Parameters						
Carbon, Total Organic	**3.12**	0.05	% dry	N/A	Sep-10-14	
pH	**7.1**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**2.7**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**360**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**121**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**27**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**18900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**13.7**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**192**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.34**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7210**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**38.1**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**20.0**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**28200**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**21.0**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**6920**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**595**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.08**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**26.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**679**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1320**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-5 (4090397-14) [Soil] Sampled: Aug-29-14 09:10, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**326**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**48.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**10.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**1180**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**11.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**59.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**89**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**4**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ30-1 (4090397-15) [Soil] Sampled: Aug-29-14 14:30						
General Parameters						
Carbon, Total Organic	**4.37**	0.05	% dry	N/A	Sep-10-14	
pH	**6.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**4.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.6**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**3550**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**275**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**57**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**25**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**14700**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**1.0**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**10.7**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**198**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.23**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7930**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**30.9**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**9.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**17.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**23400**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-1 (4090397-15) [Soil] Sampled: Aug-29-14 14:30, Continued						
Strong Acid Leachable Metals, Continued						
Lithium	**11.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5670**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**518**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**18.8**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**605**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1160**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.7**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**253**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**58.1**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**12.7**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**876**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**6.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**46.2**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**60**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ30-2 (4090397-16) [Soil] Sampled: Aug-29-14 14:30						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 56 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 40 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 25 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 19 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 12.5 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 4.75 mm	< 0.1	0.1	%	N/A	Sep-11-14	
> 2.36 mm	**4.7**	0.1	%	N/A	Sep-11-14	
> 2.0 mm	**1.0**	0.1	%	N/A	Sep-11-14	
> 1.18 mm	**2.7**	0.1	%	N/A	Sep-11-14	
> 600 µm	**7.7**	0.1	%	N/A	Sep-11-14	
> 425 µm	**7.4**	0.1	%	N/A	Sep-11-14	
> 300 µm	**10.2**	0.1	%	N/A	Sep-11-14	
> 150 µm	**30.5**	0.1	%	N/A	Sep-11-14	
> 75 µm	**14.0**	0.1	%	N/A	Sep-11-14	
< 75 µm	**21.8**	0.1	%	N/A	Sep-11-14	
Sample ID: AQ30-3 (4090397-17) [Soil] Sampled: Aug-29-14 14:30						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-3 (4090397-17) [Soil] Sampled: Aug-29-14 14:30, Continued						
General Parameters						
Carbon, Total Organic	**13.0**	0.05	% dry	N/A	Sep-10-14	
pH	**6.4**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**15**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**3100**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**310**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**79**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**42**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**13400**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**1.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**12.9**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**197**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.30**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**9770**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**26.8**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**10.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**20.9**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**21900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**10.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5140**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**698**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.06**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**18.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**696**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1170**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**1.0**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**219**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**71.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.9**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-3 (4090397-17) [Soil] Sampled: Aug-29-14 14:30, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**769**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**10.0**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**42.5**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**62**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**4**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ30-4 (4090397-18) [Soil] Sampled: Aug-29-14 14:30						
General Parameters						
Carbon, Total Organic	**4.88**	0.05	% dry	N/A	Sep-10-14	
pH	**6.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**5.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.5**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4700**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**385**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**71**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**29**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**15100**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**1.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**14.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**202**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.21**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**7970**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**31.3**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**10.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**19.9**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**24600**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.4**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**12.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5920**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**544**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.10**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**20.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**609**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1250**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-4 (4090397-18) [Soil] Sampled: Aug-29-14 14:30, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**230**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**60.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.9**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**786**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**6.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**47.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**64**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ30-5 (4090397-19) [Soil] Sampled: Aug-29-14 14:30						
General Parameters						
Carbon, Total Organic	**6.26**	0.05	% dry	N/A	Sep-10-14	
pH	**6.7**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**7.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**7**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**4500**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**410**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**94**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**30**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**15100**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**1.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**15.5**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**211**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.3**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.21**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**8330**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**31.0**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**10.4**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**20.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**24900**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**13.0**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-5 (4090397-19) [Soil] Sampled: Aug-29-14 14:30, Continued						
Strong Acid Leachable Metals, Continued						
Lithium	**12.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5920**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**585**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.07**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**20.0**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**576**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1290**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**0.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**229**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**62.2**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**11.9**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**722**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**7.5**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**46.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**64**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**3**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ03-4 (4090397-20) [Soil] Sampled: Aug-29-14 18:15						
General Parameters						
Carbon, Total Organic	**5.10**	0.05	% dry	N/A	Sep-10-14	
pH	**7.6**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**1.4**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**7**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2170**	5	mg/kg dry	N/A	Sep-12-14	
Magnesium, Available	**300**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**102**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**43**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**19200**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**12.5**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**184**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ03-4 (4090397-20) [Soil] Sampled: Aug-29-14 18:15, Continued						
Strong Acid Leachable Metals, Continued						
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.39**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**8380**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**32.6**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**11.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**20.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**25700**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.3**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**19.0**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5970**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**697**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.14**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**24.6**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**597**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1270**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**1.5**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**246**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**81.3**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**14.6**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.6**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**891**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**10.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**45.3**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**88**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**4**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Sample ID: AQ03-5 (4090397-21) [Soil] Sampled: Aug-29-14 18:15						
General Parameters						
Carbon, Total Organic	**4.01**	0.05	% dry	N/A	Sep-10-14	
pH	**7.8**	0.1	pH units	Sep-10-14	Sep-10-14	
Fertility / Nutrient Parameters						
Nitrogen, Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Sep-12-14	
Nitrogen, Nitrate as N, Available	**3.4**	1.0	mg/kg dry	N/A	Sep-12-14	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Sep-12-14	
Exchangeable Ions						
Calcium, Available	**2670**	5	mg/kg dry	N/A	Sep-12-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ03-5 (4090397-21) [Soil] Sampled: Aug-29-14 18:15, Continued						
Exchangeable Ions, Continued						
Magnesium, Available	**333**	5	mg/kg dry	N/A	Sep-12-14	
Potassium, Available	**102**	5	mg/kg dry	N/A	Sep-12-14	
Sodium, Available	**25**	5	mg/kg dry	N/A	Sep-12-14	
Strong Acid Leachable Metals						
Aluminum	**20200**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Antimony	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Arsenic	**12.8**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Barium	**183**	1	mg/kg dry	Sep-09-14	Sep-10-14	
Beryllium	**0.7**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Boron	**2**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Cadmium	**0.39**	0.04	mg/kg dry	Sep-09-14	Sep-10-14	
Calcium	**8430**	100	mg/kg dry	Sep-09-14	Sep-10-14	
Chromium	**32.1**	1.0	mg/kg dry	Sep-09-14	Sep-10-14	
Cobalt	**12.1**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Copper	**19.7**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Iron	**25400**	20	mg/kg dry	Sep-09-14	Sep-10-14	
Lead	**12.3**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Lithium	**19.8**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Magnesium	**5570**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Manganese	**712**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Mercury	**0.15**	0.05	mg/kg dry	Sep-09-14	Sep-10-14	
Molybdenum	**0.6**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Nickel	**23.9**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Phosphorus	**600**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Potassium	**1180**	10	mg/kg dry	Sep-09-14	Sep-10-14	
Selenium	**1.3**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Silicon	< 3000	3000	mg/kg dry	Sep-09-14	Sep-10-14	
Silver	< 0.2	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sodium	**279**	40	mg/kg dry	Sep-09-14	Sep-10-14	
Strontium	**80.5**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Sulfur	< 1000	1000	mg/kg dry	Sep-09-14	Sep-10-14	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thallium	**0.2**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Thorium	**14.8**	0.5	mg/kg dry	Sep-09-14	Sep-10-14	
Tin	**0.8**	0.2	mg/kg dry	Sep-09-14	Sep-10-14	
Titanium	**891**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Uranium	**12.9**	0.1	mg/kg dry	Sep-09-14	Sep-10-14	
Vanadium	**46.7**	0.4	mg/kg dry	Sep-09-14	Sep-10-14	
Zinc	**95**	2	mg/kg dry	Sep-09-14	Sep-10-14	
Zirconium	**4**	2	mg/kg dry	Sep-09-14	Sep-10-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090397
PROJECT	Coffee Gold	**REPORTED**	Sep-17-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in fibatchesfl and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types includ

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
General Parameters, Batch B4I0224										
Blank (B4I0224-BLK1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	< 0.05	0.05	% dry							
Blank (B4I0224-BLK2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	< 0.05	0.05	% dry							
Reference (B4I0224-SRM1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	1.62	0.05	% dry	1.33		121	10-231			
Reference (B4I0224-SRM2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
Carbon, Total Organic	1.51	0.05	% dry	1.33		114	10-231			
General Parameters, Batch B4I0397										
Duplicate (B4I0397-DUP1)		**Source: 4090397-08**		Prepared: Sep-10-14, Analyzed: Sep-10-14						
pH	6.8	0.1	pH units		6.8			< 1	4	
Reference (B4I0397-SRM1)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
pH	7.8	0.1	pH units	7.58		103	90-115			
Reference (B4I0397-SRM2)				Prepared: Sep-10-14, Analyzed: Sep-10-14						
pH	7.7	0.1	pH units	7.58		102	90-115			
Strong Acid Leachable Metals, Batch B4I0337										
Blank (B4I0337-BLK1)				Prepared: Sep-09-14, Analyzed: Sep-10-14						
Aluminum	< 20	20	mg/kg dry							
Antimony	< 0.1	0.1	mg/kg dry							
Arsenic	< 0.4	0.4	mg/kg dry							
Barium	< 1	1	mg/kg dry							
Beryllium	< 0.1	0.1	mg/kg dry							
Bismuth	< 0.1	0.1	mg/kg dry							
Boron	< 2	2	mg/kg dry							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B4I0337, Continued										
Blank (B4I0337-BLK1), Continued				Prepared: Sep-09-14, Analyzed: Sep-10-14						
Cadmium	< 0.04	0.04	mg/kg dry							
Calcium	< 100	100	mg/kg dry							
Chromium	< 1.0	1.0	mg/kg dry							
Cobalt	< 0.1	0.1	mg/kg dry							
Copper	< 0.2	0.2	mg/kg dry							
Iron	< 20	20	mg/kg dry							
Lead	< 0.2	0.2	mg/kg dry							
Lithium	< 0.1	0.1	mg/kg dry							
Magnesium	< 10	10	mg/kg dry							
Manganese	< 0.4	0.4	mg/kg dry							
Mercury	< 0.05	0.05	mg/kg dry							
Molybdenum	< 0.1	0.1	mg/kg dry							
Nickel	< 0.4	0.4	mg/kg dry							
Phosphorus	< 10	10	mg/kg dry							
Potassium	< 10	10	mg/kg dry							
Selenium	< 0.5	0.5	mg/kg dry							
Silicon	< 3000	3000	mg/kg dry							
Silver	< 0.2	0.2	mg/kg dry							
Sodium	< 40	40	mg/kg dry							
Strontium	< 0.2	0.2	mg/kg dry							
Sulfur	< 1000	1000	mg/kg dry							
Tellurium	< 0.1	0.1	mg/kg dry							
Thallium	< 0.1	0.1	mg/kg dry							
Thorium	< 0.5	0.5	mg/kg dry							
Tin	< 0.2	0.2	mg/kg dry							
Titanium	< 2	2	mg/kg dry							
Uranium	< 0.1	0.1	mg/kg dry							
Vanadium	< 0.4	0.4	mg/kg dry							
Zinc	< 2	2	mg/kg dry							
Zirconium	< 2	2	mg/kg dry							
Reference (B4I0337-SRM1)				Prepared: Sep-09-14, Analyzed: Sep-10-14						
Aluminum	17400	20	mg/kg dry	18200		96	86-118			
Antimony	6.8	0.1	mg/kg dry	6.27		109	73-138			
Arsenic	15.3	0.4	mg/kg dry	15.4		100	87-106			
Barium	86	1	mg/kg dry	80.6		106	72-119			
Beryllium	0.7	0.1	mg/kg dry	0.544		127	73-128			
Bismuth	2.0	0.1	mg/kg dry	2.12		96	78-97			
Boron	4	2	mg/kg dry	2.68		136	58-139			
Cadmium	0.21	0.04	mg/kg dry	0.230		90	88-121			
Calcium	3740	100	mg/kg dry	3320		113	92-113			
Chromium	29.6	1.0	mg/kg dry	27.2		109	91-113			
Cobalt	12.9	0.1	mg/kg dry	12.5		103	90-109			
Copper	46.1	0.2	mg/kg dry	44.9		103	92-112			
Iron	34200	20	mg/kg dry	33300		103	91-112			
Lead	14.4	0.2	mg/kg dry	14.4		100	89-111			
Lithium	11.2	0.1	mg/kg dry	9.26		121	73-124			
Magnesium	5650	10	mg/kg dry	5830		97	89-116			
Manganese	1130	0.4	mg/kg dry	1100		102	93-112			
Mercury	0.10	0.05	mg/kg dry	0.0980		102	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		95	93-120			
Nickel	18.0	0.4	mg/kg dry	17.4		104	93-110			
Phosphorus	754	10	mg/kg dry	796		95	86-111			
Potassium	649	10	mg/kg dry	619		105	83-117			
Sodium	442	40	mg/kg dry	340		130	79-130			
Strontium	13.2	0.2	mg/kg dry	11.6		114	85-116			
Thorium	4.1	0.5	mg/kg dry	4.46		92	78-100			

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090397
REPORTED Sep-17-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B4I0337, Continued										
Reference (B4I0337-SRM1), Continued				Prepared: Sep-09-14, Analyzed: Sep-10-14						
Tin	1.1	0.2	mg/kg dry	1.10		96	78-120			
Titanium	996	2	mg/kg dry	764		130	72-143			
Uranium	0.9	0.1	mg/kg dry	0.940		100	80-102			
Vanadium	56.0	0.4	mg/kg dry	54.9		102	87-116			
Zinc	72	2	mg/kg dry	67.5		106	91-113			

CERTIFICATE OF ANALYSIS

REPORTED TO	Palmer Environmental Consulting Group Inc. 470 Granville Street - Suite 630 Vancouver, BC V6C 1V5	**TEL** **FAX**	(604) 629-9075 -
ATTENTION	May Quach	**WORK ORDER**	4090376
PO NUMBER		**RECEIVED / TEMP**	Sep-04-14 13:25 / NA
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14
PROJECT INFO		**COC NUMBER**	B24491

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Work Order Comments:

Receipt temperature unavailable.

Oct.31/14- This is an amended report from the original issued Sept.19/14.- JLS

Issued By: **Jennifer Shanko, AScT For Jaime Tkachuk, BSc, PChem**
Account Manager

Please contact CARO if more information is needed or to provide feedback on our services.

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ANALYSIS INFORMATION

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analysis Description	Method Reference	Technique	Location
Metals in Tissue	EPA 200.3 / EPA 6020A	HNO3+HCl+H2O2 Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Moisture	ASTM D2974-87 *	Gravimetry (Dried at 105C)	N/A

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
% wet	Percent (wet weight)
mg/kg wet	Milligrams per kilogram (wet weight)

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 104 (4090376-01) [Tissue (wet)] Sampled: Aug-24-14 13:30						
General Parameters						
Moisture	**76.2**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**1.4**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.227**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.041**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.45**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.029**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**2390**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.020**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.44**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**7**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.064**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**332**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**0.76**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.049**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**4010**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**4600**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.23**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**481**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**2.65**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.006**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.35**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.001**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**11.9**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0178 (4090376-02) [Tissue (wet)] Sampled: Aug-27-14 13:30						
General Parameters						
Moisture	**79.1**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**1.5**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.065**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.027**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.13**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0178 (4090376-02) [Tissue (wet)] Sampled: Aug-27-14 13:30, Continued						
Metals in Tissue, Continued						
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.003**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**880**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.008**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.24**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**6**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.005**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**248**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**0.36**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.081**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**2530**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3510**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**0.66**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**293**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**0.95**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.003**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.25**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.001**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**5.1**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0179 (4090376-03) [Tissue (wet)] Sampled: Aug-27-14 13:30						
General Parameters						
Moisture	**78.8**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**0.8**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.099**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.027**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.002**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**303**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.006**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.27**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**4**	1	mg/kg wet	Sep-11-14	Sep-18-14	

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0179 (4090376-03) [Tissue (wet)] Sampled: Aug-27-14 13:30, Continued						
Metals in Tissue, Continued						
Lead	**0.004**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**286**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**0.25**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.071**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**2660**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**4250**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**0.92**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**284**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**0.30**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.23**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	< 0.001	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**3.9**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0219 (4090376-04) [Tissue (wet)] Sampled: Aug-27-14 17:30						
General Parameters						
Moisture	**67.6**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**5.5**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.005**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.041**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.53**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.011**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**2960**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.016**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.46**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**18**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	< 0.004	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**282**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**1.28**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.087**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**4320**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3230**	10	mg/kg wet	Sep-11-14	Sep-18-14	

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0219 (4090376-04) [Tissue (wet)] Sampled: Aug-27-14 17:30, Continued						
Metals in Tissue, Continued						
Selenium	**1.32**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**744**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**3.63**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.62**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.022**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.06**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**14.7**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0220 (4090376-05) [Tissue (wet)] Sampled: Aug-27-14 17:30						
General Parameters						
Moisture	**76**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**2.0**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.006**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.057**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.09**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.005**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**7620**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.010**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.56**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**11**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	< 0.004	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**337**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**2.66**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.078**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**6300**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3410**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.38**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**815**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**9.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.006**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.46**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.035**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0220 (4090376-05) [Tissue (wet)] Sampled: Aug-27-14 17:30, Continued						
Metals in Tissue, Continued						
Vanadium	**0.06**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**19.2**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0221 (4090376-06) [Tissue (wet)] Sampled: Aug-27-14 17:30						
General Parameters						
Moisture	**74.9**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**2.9**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.006**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.067**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.92**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.006**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**6560**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.009**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.58**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**12**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.007**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**331**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**1.77**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.079**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**5500**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3340**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.15**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**747**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**8.29**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.61**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.021**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.05**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**16.0**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0222 (4090376-07) [Tissue (wet)] Sampled: Aug-27-14 17:30						
General Parameters						
Moisture	**73.3**	0.1	% wet	N/A	Sep-11-14	

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Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0222 (4090376-07) [Tissue (wet)] Sampled: Aug-27-14 17:30, Continued						
Metals in Tissue						
Aluminum	**8.5**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.005**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.082**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.91**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.010**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**5190**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.012**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.50**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**21**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.009**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**312**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**3.35**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.058**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**4900**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3340**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.14**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**707**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**6.30**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.005**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.92**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.031**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.07**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**20.1**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-1 (4090376-08) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**72.7**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**2.1**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.013**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.066**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.65**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.007**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-1 (4090376-08) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Calcium	**6070**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.008**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.40**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**10**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.005**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**341**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**4.38**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.039**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**5350**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3420**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**0.98**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**614**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**9.73**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.003**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.41**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.006**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.06**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**20.0**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-2 (4090376-09) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**73**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**11.7**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.033**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.070**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**4.56**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.133**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**22900**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.040**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.93**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**36**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.018**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**451**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**9.12**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-2 (4090376-09) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Mercury	**0.049**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.07**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**12500**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3090**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.26**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1350**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**26.4**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.57**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.030**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.24**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**30.5**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-3 (4090376-10) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**72.5**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**7.8**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.023**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.069**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**4.47**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.214**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**21400**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.027**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.83**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**27**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.015**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**485**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**12.0**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.038**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.08**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**13400**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3210**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**2.19**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1290**	2	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-3 (4090376-10) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Strontium	**26.9**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.24**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.017**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.22**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**31.4**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-4 (4090376-11) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**71.7**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**4.6**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.027**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.085**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**4.13**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.225**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**18300**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.024**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.58**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**18**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.021**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**462**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**19.0**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.061**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.09**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**12100**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3590**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.79**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1180**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**22.5**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.98**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.35**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**48.9**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-5 (4090376-12) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**72.1**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**11.2**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.020**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.087**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.94**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.281**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**14500**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.016**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.63**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**28**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.013**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**407**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**7.78**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.045**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.06**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**9730**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3510**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.56**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1150**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**20.4**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.13**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.022**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.16**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**25.7**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-6 (4090376-13) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**72.1**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**10.7**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.019**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.100**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.71**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-6 (4090376-13) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.173**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**14000**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.039**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.73**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**30**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.017**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**412**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**11.3**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.032**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.10**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**9530**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3500**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**2.63**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1060**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**17.5**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.005**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.32**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.007**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.14**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**28.4**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-7 (4090376-14) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**75.2**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**15.3**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.017**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.077**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.70**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.144**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**10900**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.06**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.022**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.57**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**40**	1	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-7 (4090376-14) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Lead	**0.015**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**359**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**9.03**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.057**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.07**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**7670**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3260**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.22**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1090**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**14.4**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.004**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.32**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.010**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.19**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**28.5**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-8 (4090376-15) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**69.7**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**27.3**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.078**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.191**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**4.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.036**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**11900**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.06**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.033**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.62**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**70**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.027**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**349**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**7.48**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.031**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.08**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**8330**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3290**	10	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-8 (4090376-15) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Selenium	**1.45**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**973**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**17.7**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.002**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**2.36**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.029**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.24**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**23.3**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: R1-9 (4090376-16) [Tissue (wet)] Sampled: Aug-28-14 10:30						
General Parameters						
Moisture	**74.3**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**14.9**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.016**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.095**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**3.89**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.416**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**15600**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.050**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.52**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**41**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.028**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**439**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**15.5**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.040**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.11**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**9920**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3490**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.78**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1020**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**19.5**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.005**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.70**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.010**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: R1-9 (4090376-16) [Tissue (wet)] Sampled: Aug-28-14 10:30, Continued						
Metals in Tissue, Continued						
Vanadium	**0.27**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**40.0**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-301 (4090376-17) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**74.5**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**106**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.011**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.173**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.48**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.245**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**4650**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.25**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.079**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**1.79**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**174**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.063**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**285**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**7.24**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.088**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.06**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.19**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**4550**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**2910**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.36**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**954**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**5.06**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	**0.02**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**7.08**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.048**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.37**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**21.5**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-302 (4090376-18) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**68.6**	0.1	% wet	N/A	Sep-11-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-302 (4090376-18) [Tissue (wet)] Sampled: Aug-28-14 12:30, Continued						
Metals in Tissue						
Aluminum	**3.0**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.008**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.077**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.76**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.2**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.053**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**12700**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.014**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.62**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**11**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.019**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**355**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**6.07**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.056**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**8510**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3000**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**0.90**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**895**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**14.7**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.007**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.68**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.014**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.13**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**27.1**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-303 (4090376-19) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**68.2**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**4.7**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.006**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.069**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.59**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.041**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-303 (4090376-19) [Tissue (wet)] Sampled: Aug-28-14 12:30, Continued						
Metals in Tissue, Continued						
Calcium	**3250**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.011**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.47**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**14**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.007**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**270**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**2.02**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.091**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**3960**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3120**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**0.93**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**656**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**3.88**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.64**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.07**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**21.3**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-304 (4090376-20) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**70.9**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**26.4**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.007**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.097**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**3.83**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.184**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**23400**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.07**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.040**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**1.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**59**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.029**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**480**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**12.4**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-304 (4090376-20) [Tissue (wet)] Sampled: Aug-28-14 12:30, Continued						
Metals in Tissue, Continued						
Mercury	**0.066**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.11**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**14200**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3060**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.78**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1360**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**28.9**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**2.75**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.028**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.28**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**26.4**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-305 (4090376-21) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**71.3**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**103**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.011**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.178**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**3.43**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	**0.002**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.191**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**16600**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.22**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.087**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**1.90**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**167**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.059**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**404**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**12.6**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.073**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.07**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.19**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**10500**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**2990**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**2.53**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1210**	2	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-305 (4090376-21) [Tissue (wet)] Sampled: Aug-28-14 12:30, Continued						
Metals in Tissue, Continued						
Strontium	**18.7**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.010**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**6.93**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.049**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.39**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**24.2**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-306 (4090376-22) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**71.6**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**13.2**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.005**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.094**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.80**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.096**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**10400**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.032**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.72**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**35**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.034**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**333**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**6.86**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.093**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.08**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**7340**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3090**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.07**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**992**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**11.6**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.32**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.018**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.10**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**22.1**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-307 (4090376-23) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**71**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**14.3**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.007**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.089**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.11**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.117**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**13200**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.026**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.65**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**31**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.019**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**355**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**11.7**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.041**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.09**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**8960**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3310**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.73**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**930**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**15.2**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.007**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.47**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.016**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.14**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**26.7**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: I-308 (4090376-24) [Tissue (wet)] Sampled: Aug-28-14 12:30						
General Parameters						
Moisture	**67.1**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**6.5**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.009**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.108**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.83**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: I-308 (4090376-24) [Tissue (wet)] Sampled: Aug-28-14 12:30, Continued						
Metals in Tissue, Continued						
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.050**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**11100**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.015**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.54**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**19**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.035**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**345**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**5.80**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.072**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**7690**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3080**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.31**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**855**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**12.4**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.90**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.015**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.09**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**27.8**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0223 (4090376-25) [Tissue (wet)] Sampled: Aug-28-14 15:30						
General Parameters						
Moisture	**73.8**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**4.9**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.029**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.074**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**3.91**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.017**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**21900**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.02**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.019**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.68**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**23**	1	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0223 (4090376-25) [Tissue (wet)] Sampled: Aug-28-14 15:30, Continued						
Metals in Tissue, Continued						
Lead	**0.008**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**469**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**8.82**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.107**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**13700**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3380**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**2.01**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1150**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**29.9**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.006**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.26**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.044**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.18**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**38.8**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0224 (4090376-26) [Tissue (wet)] Sampled: Aug-28-14 15:30						
General Parameters						
Moisture	**72.7**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**2.2**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.032**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.062**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**1.08**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	**0.1**	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.003**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**7420**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.010**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.47**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**12**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.008**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**299**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**2.99**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.143**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**5680**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3220**	10	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0224 (4090376-26) [Tissue (wet)] Sampled: Aug-28-14 15:30, Continued						
Metals in Tissue, Continued						
Selenium	**0.95**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**739**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**8.93**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.005**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.47**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.033**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.06**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**29.3**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0225 (4090376-27) [Tissue (wet)] Sampled: Aug-28-14 15:30						
General Parameters						
Moisture	**76.3**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**8.2**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.053**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.058**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**0.55**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.039**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**2420**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.012**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.72**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**25**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.030**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**266**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**1.49**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.224**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.01**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.04**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**3240**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3200**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.41**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**732**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**2.82**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.008**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**0.79**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.029**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0225 (4090376-27) [Tissue (wet)] Sampled: Aug-28-14 15:30, Continued						
Metals in Tissue, Continued						
Vanadium	**0.11**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**17.3**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0226 (4090376-28) [Tissue (wet)] Sampled: Aug-28-14 15:30						
General Parameters						
Moisture	**72.9**	0.1	% wet	N/A	Sep-11-14	
Metals in Tissue						
Aluminum	**20.4**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.025**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.096**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.93**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.077**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**16100**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.030**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**1.21**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**56**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.022**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**350**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**7.17**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.092**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	**0.03**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.07**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**9460**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**2790**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**2.74**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**1230**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**19.0**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.010**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.94**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.146**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.28**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**22.6**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	
Sample ID: 0227 (4090376-29) [Tissue (wet)] Sampled: Aug-28-14 15:30						
General Parameters						
Moisture	**70.1**	0.1	% wet	N/A	Sep-11-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0227 (4090376-29) [Tissue (wet)] Sampled: Aug-28-14 15:30, Continued						
Metals in Tissue						
Aluminum	**13.9**	0.4	mg/kg wet	Sep-11-14	Sep-18-14	
Antimony	**0.038**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Arsenic	**0.082**	0.005	mg/kg wet	Sep-11-14	Sep-18-14	
Barium	**2.30**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Beryllium	< 0.002	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Bismuth	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Boron	< 0.1	0.1	mg/kg wet	Sep-11-14	Sep-18-14	
Cadmium	**0.015**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Calcium	**10200**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Chromium	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Cobalt	**0.017**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Copper	**0.62**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Iron	**31**	1	mg/kg wet	Sep-11-14	Sep-18-14	
Lead	**0.020**	0.004	mg/kg wet	Sep-11-14	Sep-18-14	
Magnesium	**321**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Manganese	**5.06**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Mercury	**0.097**	0.002	mg/kg wet	Sep-11-14	Sep-18-14	
Molybdenum	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Nickel	**0.05**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Phosphorus	**6580**	5	mg/kg wet	Sep-11-14	Sep-18-14	
Potassium	**3010**	10	mg/kg wet	Sep-11-14	Sep-18-14	
Selenium	**1.01**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Silver	< 0.01	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Sodium	**731**	2	mg/kg wet	Sep-11-14	Sep-18-14	
Strontium	**11.9**	0.01	mg/kg wet	Sep-11-14	Sep-18-14	
Thallium	**0.009**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Tin	< 0.02	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Titanium	**1.24**	0.05	mg/kg wet	Sep-11-14	Sep-18-14	
Uranium	**0.069**	0.001	mg/kg wet	Sep-11-14	Sep-18-14	
Vanadium	**0.10**	0.02	mg/kg wet	Sep-11-14	Sep-18-14	
Zinc	**32.8**	0.5	mg/kg wet	Sep-11-14	Sep-18-14	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	4090376
PROJECT	Coffee Gold	**REPORTED**	Oct-31-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in fibatchesfl and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types includ

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
General Parameters, Batch B4I0465										
Duplicate (B4I0465-DUP1)		**Source: 4090376-01**		Prepared: Sep-11-14, Analyzed: Sep-11-14						
Moisture	77.2	0.1	% wet		76.2			1.3	40	
Duplicate (B4I0465-DUP2)		**Source: 4090376-17**		Prepared: Sep-11-14, Analyzed: Sep-11-14						
Moisture	72.3	0.1	% wet		74.5			3.0	40	
Duplicate (B4I0465-DUP3)		**Source: 4090376-26**		Prepared: Sep-11-14, Analyzed: Sep-11-14						
Moisture	68.3	0.1	% wet		72.7			6.2	40	
Metals in Tissue, Batch B4I0464										
Blank (B4I0464-BLK1)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Metals in Tissue, Batch B4I0464, Continued										
Blank (B4I0464-BLK1), Continued				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							
Zinc	< 0.5	0.5	mg/kg wet							
Blank (B4I0464-BLK2)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							
Zinc	< 0.5	0.5	mg/kg wet							
Blank (B4I0464-BLK3)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Metals in Tissue, Batch B4I0464, Continued										
Blank (B4I0464-BLK3), Continued				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							
Zinc	< 0.5	0.5	mg/kg wet							
Duplicate (B4I0464-DUP1)				**Source: 4090376-01** Prepared: Sep-11-14, Analyzed: Sep-18-14						
Aluminum	1.8	0.4	mg/kg wet		1.4				30	
Antimony	0.248	0.002	mg/kg wet		0.227			8	40	
Arsenic	0.037	0.005	mg/kg wet		0.041			8	30	
Barium	0.53	0.01	mg/kg wet		0.45			16	30	
Beryllium	< 0.002	0.002	mg/kg wet		< 0.002				30	
Bismuth	< 0.02	0.02	mg/kg wet		< 0.02				30	
Boron	0.1	0.1	mg/kg wet		< 0.1				30	
Cadmium	0.036	0.002	mg/kg wet		0.029			21	30	
Calcium	1330	2	mg/kg wet		2390			57	30	RPD1
Chromium	0.03	0.01	mg/kg wet		0.02				30	
Cobalt	0.017	0.004	mg/kg wet		0.020			20	30	
Copper	0.43	0.01	mg/kg wet		0.44			3	30	
Iron	7	1	mg/kg wet		7			5	30	
Lead	0.097	0.004	mg/kg wet		0.064			41	40	RPD1
Magnesium	299	2	mg/kg wet		332			10	30	
Manganese	0.41	0.02	mg/kg wet		0.76			60	30	RPD1
Mercury	0.049	0.002	mg/kg wet		0.049			< 1	40	
Molybdenum	< 0.01	0.01	mg/kg wet		< 0.01				40	
Nickel	0.01	0.01	mg/kg wet		0.01				30	
Phosphorus	3320	5	mg/kg wet		4010			19	30	
Potassium	4440	10	mg/kg wet		4600			4	30	
Selenium	1.20	0.02	mg/kg wet		1.23			2	30	
Silver	< 0.01	0.01	mg/kg wet		< 0.01				40	
Sodium	413	2	mg/kg wet		481			15	30	
Strontium	1.17	0.01	mg/kg wet		2.65			77	30	RPD1
Thallium	0.006	0.001	mg/kg wet		0.006			5	30	
Tin	< 0.02	0.02	mg/kg wet		0.02				40	
Titanium	0.32	0.05	mg/kg wet		0.35			8	40	
Uranium	0.001	0.001	mg/kg wet		0.001				30	
Vanadium	< 0.02	0.02	mg/kg wet		< 0.02				30	
Zinc	6.5	0.5	mg/kg wet		11.9			59	30	RPD1
Duplicate (B4I0464-DUP3)				**Source: 4090376-26** Prepared: Sep-11-14, Analyzed: Sep-18-14						
Aluminum	0.7	0.4	mg/kg wet		2.2			105	30	
Antimony	0.034	0.002	mg/kg wet		0.032			5	40	
Arsenic	0.064	0.005	mg/kg wet		0.062			5	30	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Metals in Tissue, Batch B4I0464, Continued										
Duplicate (B4I0464-DUP3), Continued		**Source: 4090376-26**		Prepared: Sep-11-14, Analyzed: Sep-18-14						
Barium	1.29	0.01	mg/kg wet		1.08			18	30	
Beryllium	< 0.002	0.002	mg/kg wet		< 0.002				30	
Bismuth	< 0.02	0.02	mg/kg wet		< 0.02				30	
Boron	0.2	0.1	mg/kg wet		0.1				30	
Cadmium	0.002	0.002	mg/kg wet		0.003				30	
Calcium	6200	2	mg/kg wet		7420			18	30	
Chromium	< 0.01	0.01	mg/kg wet		0.01				30	
Cobalt	0.008	0.004	mg/kg wet		0.010				30	
Copper	0.47	0.01	mg/kg wet		0.47			< 1	30	
Iron	6	1	mg/kg wet		12			65	30	RPD1
Lead	< 0.004	0.004	mg/kg wet		0.008				40	
Magnesium	292	2	mg/kg wet		299			2	30	
Manganese	2.86	0.02	mg/kg wet		2.99			4	30	
Mercury	0.101	0.002	mg/kg wet		0.143			35	40	
Molybdenum	< 0.01	0.01	mg/kg wet		< 0.01				40	
Nickel	0.02	0.01	mg/kg wet		0.03				30	
Phosphorus	5650	5	mg/kg wet		5680			< 1	30	
Potassium	3200	10	mg/kg wet		3220			< 1	30	
Selenium	0.91	0.02	mg/kg wet		0.95			4	30	
Silver	< 0.01	0.01	mg/kg wet		< 0.01				40	
Sodium	642	2	mg/kg wet		739			14	30	
Strontium	8.34	0.01	mg/kg wet		8.93			7	30	
Thallium	0.005	0.001	mg/kg wet		0.005			13	30	
Tin	< 0.02	0.02	mg/kg wet		< 0.02				40	
Titanium	0.33	0.05	mg/kg wet		0.47			34	40	
Uranium	0.033	0.001	mg/kg wet		0.033			< 1	30	
Vanadium	0.06	0.02	mg/kg wet		0.06				30	
Zinc	40.0	0.5	mg/kg wet		29.3			31	30	RPD1
Reference (B4I0464-SRM1)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Arsenic	73.7	0.005	mg/kg wet	59.5		124	75-125			
Cadmium	39.5	0.002	mg/kg wet	42.3		93	75-125			
Chromium	1.62	0.01	mg/kg wet	1.95		83	75-125			
Cobalt	0.917	0.004	mg/kg wet	1.06		87	75-125			
Copper	459	0.01	mg/kg wet	497		92	75-125			
Iron	164	1	mg/kg wet	179		92	75-125			
Lead	0.191	0.004	mg/kg wet	0.225		85	75-125			
Manganese	14.5	0.02	mg/kg wet	15.6		93	75-125			
Mercury	0.259	0.002	mg/kg wet	0.292		89	75-125			
Molybdenum	3.07	0.01	mg/kg wet	3.44		89	75-125			
Nickel	4.26	0.01	mg/kg wet	5.30		80	75-125			
Selenium	12.3	0.02	mg/kg wet	10.9		113	75-125			
Strontium	32.5	0.01	mg/kg wet	36.5		89	75-125			
Tin	< 0.08	0.02	mg/kg wet	0.0290		105	75-125			
Vanadium	8.88	0.02	mg/kg wet	9.10		98	75-125			
Zinc	122	0.5	mg/kg wet	136		90	75-125			
Reference (B4I0464-SRM2)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Arsenic	73.3	0.005	mg/kg wet	59.5		123	75-125			
Cadmium	39.4	0.002	mg/kg wet	42.3		93	75-125			
Chromium	1.50	0.01	mg/kg wet	1.95		77	75-125			
Cobalt	0.903	0.004	mg/kg wet	1.06		85	75-125			
Copper	450	0.01	mg/kg wet	497		91	75-125			
Iron	165	1	mg/kg wet	179		92	75-125			
Lead	0.191	0.004	mg/kg wet	0.225		85	75-125			
Manganese	14.7	0.02	mg/kg wet	15.6		94	75-125			
Mercury	0.266	0.002	mg/kg wet	0.292		91	75-125			

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 4090376
REPORTED Oct-31-14

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
Metals in Tissue, Batch B4I0464, Continued										
Reference (B4I0464-SRM2), Continued				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Molybdenum	3.00	0.01	mg/kg wet	3.44		87	75-125			
Nickel	4.16	0.01	mg/kg wet	5.30		78	75-125			
Selenium	12.5	0.02	mg/kg wet	10.9		115	75-125			
Strontium	34.4	0.01	mg/kg wet	36.5		94	75-125			
Tin	< 0.08	0.02	mg/kg wet	0.0290		92	75-125			
Vanadium	8.76	0.02	mg/kg wet	9.10		96	75-125			
Zinc	120	0.5	mg/kg wet	136		88	75-125			
Reference (B4I0464-SRM3)				Prepared: Sep-11-14, Analyzed: Sep-18-14						
Arsenic	74.1	0.005	mg/kg wet	59.5		125	75-125			
Cadmium	40.1	0.002	mg/kg wet	42.3		95	75-125			
Chromium	1.47	0.01	mg/kg wet	1.95		75	75-125			
Cobalt	0.883	0.004	mg/kg wet	1.06		83	75-125			
Copper	444	0.01	mg/kg wet	497		89	75-125			
Iron	160	1	mg/kg wet	179		90	75-125			
Lead	0.191	0.004	mg/kg wet	0.225		85	75-125			
Manganese	14.4	0.02	mg/kg wet	15.6		92	75-125			
Mercury	0.266	0.002	mg/kg wet	0.292		91	75-125			
Molybdenum	3.06	0.01	mg/kg wet	3.44		89	75-125			
Nickel	4.07	0.01	mg/kg wet	5.30		77	75-125			
Selenium	12.3	0.02	mg/kg wet	10.9		113	75-125			
Strontium	34.1	0.01	mg/kg wet	36.5		94	75-125			
Tin	< 0.08	0.02	mg/kg wet	0.0290		95	75-125			
Vanadium	8.81	0.02	mg/kg wet	9.10		97	75-125			
Zinc	119	0.5	mg/kg wet	136		87	75-125			

QC Qualifiers:

RPD1 Relative percent difference(s) (RPD) of one or more analytes on duplicate analysis are outside of control limits due to sample heterogeneity.

CERTIFICATE OF ANALYSIS

REPORTED TO	Palmer Environmental Consulting Group Inc. 470 Granville Street - Suite 630 Vancouver, BC V6C 1V5	**TEL** **FAX**	(604) 629-9075 -

ATTENTION	Alyssa Murdoch	**WORK ORDER**	5061952
PO NUMBER		**RECEIVED / TEMP**	Jun-25-15 10:18 / 6°C
PROJECT	Coffee Gold	**REPORTED**	Jul-10-15
PROJECT INFO		**COC NUMBER**	B 32953

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

[signature redacted]

Authorized By:

Division Manager, Richmond

Please contact CARO if more information is needed or to provide feedback on our services.

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ANALYSIS INFORMATION

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5061952
PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analysis Description	Method Reference	Technique	Location
Metals in Tissue	EPA 200.3 / EPA 6020A	HNO3+HCl+H2O2 Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Moisture	ASTM D2974-87*	Gravimetry (Dried at 105C)	N/A

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
% wet	Percent (wet weight)
mg/kg wet	Milligrams per kilogram (wet weight)

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5061952
PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0-9 (5061952-01) [Tissue (wet)] Sampled: Jun-21-15 17:30						
Metals in Tissue						
Aluminum	**2.4**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**0.703**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.027**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.11**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.010**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Calcium	**84**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	**0.02**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.014**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.49**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**7**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	**0.009**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**309**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.36**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Mercury	**0.108**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**2940**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**5060**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**0.85**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**290**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Strontium	**0.12**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.005**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.26**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.002**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**7.7**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	
Sample ID: 0-11 (5061952-02) [Tissue (wet)] Sampled: Jun-21-15 17:30						
General Parameters						
Moisture	**77.9**	0.1	% wet	N/A	Jul-10-15	
Metals in Tissue						
Aluminum	**1.4**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**1.16**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.025**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.18**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.006**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	

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PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0-11 (5061952-02) [Tissue (wet)] Sampled: Jun-21-15 17:30, Continued						
Metals in Tissue, Continued						
Calcium	**400**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.006**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.36**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**5**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	**0.006**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**299**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.45**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Mercury	**0.123**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**3040**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**4970**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**0.48**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**350**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Strontium	**0.56**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.004**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.20**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.002**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**4.5**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	
Sample ID: 0-22 (5061952-03) [Tissue (wet)] Sampled: Jun-23-15 12:00						
General Parameters						
Moisture	**79.7**	0.1	% wet	N/A	Jul-10-15	
Metals in Tissue						
Aluminum	**0.7**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**0.383**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.059**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.26**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.004**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Calcium	**483**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	**0.02**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.011**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.40**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**4**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	< 0.004	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**293**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.37**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	

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PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0-22 (5061952-03) [Tissue (wet)] Sampled: Jun-23-15 12:00, Continued						
Metals in Tissue, Continued						
Mercury	**0.127**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**3010**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**4970**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**0.74**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**369**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Strontium	**0.68**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.004**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.15**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.002**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**5.0**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	
Sample ID: 0-23 (5061952-04) [Tissue (wet)] Sampled: Jun-23-15 12:00						
General Parameters						
Moisture	**79.9**	0.1	% wet	N/A	Jul-10-15	
Metals in Tissue						
Aluminum	**0.7**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**0.505**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.042**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.15**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.007**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Calcium	**154**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.011**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.33**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**4**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	**0.010**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**288**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.30**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Mercury	**0.107**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**2760**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**4850**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**0.94**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**326**	2	mg/kg wet	Jul-07-15	Jul-08-15	

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PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0-23 (5061952-04) [Tissue (wet)] Sampled: Jun-23-15 12:00, Continued						
Metals in Tissue, Continued						
Strontium	**0.22**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.005**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.14**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.002**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**4.1**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	
Sample ID: 0-25 (5061952-05) [Tissue (wet)] Sampled: Jun-23-15 12:00						
General Parameters						
Moisture	**79.7**	0.1	% wet	N/A	Jul-10-15	
Metals in Tissue						
Aluminum	**1.7**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**0.201**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.030**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.07**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.007**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Calcium	**81**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	**0.06**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.012**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.46**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**7**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	**0.005**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**291**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.37**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Mercury	**0.132**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**2800**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**4810**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**1.02**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**314**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Strontium	**0.11**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.007**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.31**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.002**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**6.6**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	

SAMPLE ANALYTICAL DATA

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PROJECT	Coffee Gold	**REPORTED**	Jul-10-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 0-26 (5061952-06) [Tissue (wet)] Sampled: Jun-23-15 12:00						
General Parameters						
Moisture	**79.7**	0.1	% wet	N/A	Jul-10-15	
Metals in Tissue						
Aluminum	**0.8**	0.4	mg/kg wet	Jul-07-15	Jul-08-15	
Antimony	**0.417**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Arsenic	**0.031**	0.005	mg/kg wet	Jul-07-15	Jul-08-15	
Barium	**0.24**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Beryllium	< 0.002	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Bismuth	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Boron	< 0.1	0.1	mg/kg wet	Jul-07-15	Jul-08-15	
Cadmium	**0.007**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Calcium	**131**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Chromium	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Cobalt	**0.011**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Copper	**0.54**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Iron	**4**	1	mg/kg wet	Jul-07-15	Jul-08-15	
Lead	**0.006**	0.004	mg/kg wet	Jul-07-15	Jul-08-15	
Magnesium	**282**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Manganese	**0.28**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Mercury	**0.127**	0.002	mg/kg wet	Jul-07-15	Jul-08-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Nickel	**0.01**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Phosphorus	**2770**	5	mg/kg wet	Jul-07-15	Jul-08-15	
Potassium	**4680**	10	mg/kg wet	Jul-07-15	Jul-08-15	
Selenium	**1.08**	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Silver	< 0.01	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Sodium	**392**	2	mg/kg wet	Jul-07-15	Jul-08-15	
Strontium	**0.19**	0.01	mg/kg wet	Jul-07-15	Jul-08-15	
Thallium	**0.006**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Tin	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Titanium	**0.15**	0.05	mg/kg wet	Jul-07-15	Jul-08-15	
Uranium	**0.001**	0.001	mg/kg wet	Jul-07-15	Jul-08-15	
Vanadium	< 0.02	0.02	mg/kg wet	Jul-07-15	Jul-08-15	
Zinc	**6.7**	0.5	mg/kg wet	Jul-07-15	Jul-08-15	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in fibatchesfl and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types includ

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5G0265										
Blank (B5G0265-BLK1)				Prepared: Jul-07-15, Analyzed: Jul-08-15						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							
Zinc	< 0.5	0.5	mg/kg wet							

QUALITY CONTROL DATA

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5061952
REPORTED Jul-10-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5G0265, Continued										
Duplicate (B5G0265-DUP1)	**Source: 5061952-02**			Prepared: Jul-07-15, Analyzed: Jul-08-15						
Aluminum	0.9	0.4	mg/kg wet		1.4				40	
Antimony	0.746	0.002	mg/kg wet		1.16			43	40	RPD1
Arsenic	0.025	0.005	mg/kg wet		0.025			3	40	
Barium	0.08	0.01	mg/kg wet		0.18			82	40	RPD1
Beryllium	< 0.002	0.002	mg/kg wet		< 0.002				40	
Bismuth	< 0.02	0.02	mg/kg wet		< 0.02				40	
Boron	< 0.1	0.1	mg/kg wet		< 0.1				40	
Cadmium	0.006	0.002	mg/kg wet		0.006				40	
Calcium	80	2	mg/kg wet		400			133	60	RPD1
Chromium	< 0.01	0.01	mg/kg wet		0.01				40	
Cobalt	0.007	0.004	mg/kg wet		0.006				40	
Copper	0.37	0.01	mg/kg wet		0.36			2	40	
Iron	4	1	mg/kg wet		5			17	40	
Lead	0.005	0.004	mg/kg wet		0.006				40	
Magnesium	297	2	mg/kg wet		299			< 1	40	
Manganese	0.27	0.02	mg/kg wet		0.45			47	40	RPD1
Mercury	0.132	0.002	mg/kg wet		0.123			7	40	
Molybdenum	< 0.01	0.01	mg/kg wet		< 0.01				40	
Nickel	< 0.01	0.01	mg/kg wet		0.01				40	
Phosphorus	2880	5	mg/kg wet		3040			6	40	
Potassium	4920	10	mg/kg wet		4970			1	40	
Selenium	0.48	0.02	mg/kg wet		0.48			< 1	40	
Silver	< 0.01	0.01	mg/kg wet		< 0.01				40	
Sodium	346	2	mg/kg wet		350			1	40	
Strontium	0.11	0.01	mg/kg wet		0.56			136	60	RPD1
Thallium	0.004	0.001	mg/kg wet		0.004				40	
Tin	< 0.02	0.02	mg/kg wet		< 0.02				40	
Titanium	0.15	0.05	mg/kg wet		0.20				40	
Uranium	0.001	0.001	mg/kg wet		0.002				40	
Vanadium	< 0.02	0.02	mg/kg wet		< 0.02				40	
Zinc	5.4	0.5	mg/kg wet		4.5			18	40	
Reference (B5G0265-SRM1)				Prepared: Jul-07-15, Analyzed: Jul-08-15						
Arsenic	72.4	0.005	mg/kg wet	59.5		122	75-125			
Cadmium	40.6	0.002	mg/kg wet	42.3		96	75-125			
Chromium	1.57	0.01	mg/kg wet	1.95		80	75-125			
Cobalt	1.18	0.004	mg/kg wet	1.06		111	75-125			
Copper	484	0.01	mg/kg wet	497		97	75-125			
Iron	183	1	mg/kg wet	179		102	75-125			
Lead	0.189	0.004	mg/kg wet	0.225		84	75-125			
Manganese	16.9	0.02	mg/kg wet	15.6		108	75-125			
Mercury	0.268	0.002	mg/kg wet	0.292		92	75-125			
Molybdenum	3.58	0.01	mg/kg wet	3.44		104	75-125			
Nickel	4.99	0.01	mg/kg wet	5.30		94	75-125			
Selenium	13.3	0.02	mg/kg wet	10.9		122	75-125			
Strontium	38.1	0.01	mg/kg wet	36.5		104	75-125			
Tin	< 0.05	0.02	mg/kg wet	0.0290		79	75-125			
Vanadium	10.3	0.02	mg/kg wet	9.10		113	75-125			
Zinc	137	0.5	mg/kg wet	136		101	75-125			

QC Qualifiers:

RPD1 Relative percent difference(s) (RPD) of one or more analytes on duplicate analysis are outside of control limits due to sample heterogeneity.

CERTIFICATE OF ANALYSIS

REPORTED TO	Palmer Environmental Consulting Group Inc. 470 Granville Street - Suite 630 Vancouver, BC V6C 1V5	**TEL** **FAX**	(604) 629-9075 -
ATTENTION	Alyssa Murdoch		

WORK ORDER	5080309		
PO NUMBER		**RECEIVED / TEMP**	Aug-06-15 08:24 / 5°C
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15
PROJECT INFO		**COC NUMBER**	B 32952

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Work Order Comments:

Please note this is an amended report - additional parameters reported 11/30/2015 KF

[signature redacted]

Authorized By: **Brent Coates, B.Sc.**
Division Manager, Richmond

If you have any questions or concerns, please contact your Account Manager:
Sara Gulenchyn, B.Sc, P.Chem. (sgulenchyn@caro.ca)

TABLE OF CONTENTS

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

ANALYSIS INFORMATION

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analysis Description	Method Reference	Technique	Location
Available Cations (Ca/Mg/K/Na)	MSSMA 4.51	1N Ammonium Acetate Extraction, Atomic Spectroscopy	Sublet
Available NH4-N and NO3-N in Soil	Carter 4	Nitrate and Exchangeable Ammonium Nitrogen	Sublet
Carbon, Total Organic in Solids	Carter 21.2	Catalytic Combustion and Infrared Detection	Kelowna
Chlorophyll-A	APHA 10200 H	Spectrophotometry	Kelowna
Metals in Tissue	EPA 200.3 / EPA 6020A	HNO3+HCl+H2O2 Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Moisture	ASTM D2974-87*	Gravimetry (Dried at 105C)	N/A
Particle Size - Dry Sieve Fractions	N/A	N/A	Richmond
pH in Soil (1:2 Soil/Water)	Carter 16.2 / APHA 4500-H+ B	1:2 Soil/Water Slurry / Electrometry	Richmond
Phosphorus, Available (Bray)	UBCPLMM 6.1	Bray Extraction, Colorimetric	Sublet
Strong Acid Leachable Metals	BCMOE SALM V.2 / EPA 6020A	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Total Solids	APHA 2540 B	Gravimetric (Dried at 103-105C)	Kelowna
Total Volatile Solids (550C)	APHA 2540 E	Gravimetry (Ignited at 550C)	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA	Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation
ASTM	ASTM International Test Methods
Carter	Soil Sampling and Methods of Analysis, 2nd Edition (2007), Carter/Gregorich
EPA	United States Environmental Protection Agency Test Methods
MSSMA	Manual on Soil Sampling and Methods of Analysis, J.A. McKeague
UBCPLMM	Methods Manual, Pedology Laboratory, 1977/1981, L.M. Lavkulich, UBC Department of Soil Science

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
%	Percent
% dry	Percent (dry weight)
% wet	Percent (wet weight)
mg/kg dry	Milligrams per kilogram (dry weight)
mg/kg wet	Milligrams per kilogram (wet weight)
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, ph > 7 = basic
µg/L	Micrograms per litre

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF2 (5080309-01) [Water] Sampled: Aug-01-15 09:20						
General Parameters						
Chlorophyll a	**19.0**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**350**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**93**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ10 (5080309-02) [Water] Sampled: Aug-01-15 10:20						
General Parameters						
Chlorophyll a	**23.5**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**103**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**83**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ11 (5080309-03) [Water] Sampled: Aug-01-15 10:45						
General Parameters						
Chlorophyll a	**12.0**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**143**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**37**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ20 (5080309-04) [Water] Sampled: Aug-01-15 11:20						
General Parameters						
Chlorophyll a	**23.6**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**193**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**160**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ30 (5080309-05) [Water] Sampled: Aug-01-15 11:45						
General Parameters						
Chlorophyll a	**29.0**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**107**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**37**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ13 (5080309-06) [Water] Sampled: Aug-01-15 12:20						
General Parameters						
Chlorophyll a	**23.7**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**140**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**70**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ04.5 (5080309-07) [Water] Sampled: Aug-01-15 13:40						
General Parameters						
Chlorophyll a	**24.3**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**273**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**43**	10	mg/L	N/A	Aug-12-15	HT1

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04 (5080309-08) [Water] Sampled: Aug-01-15 14:25						
General Parameters						
Chlorophyll a	**11.0**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**143**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**53**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ02 (5080309-09) [Water] Sampled: Aug-01-15 15:10						
General Parameters						
Chlorophyll a	**26.6**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**183**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**90**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ00 (5080309-10) [Water] Sampled: Aug-01-15 15:30						
General Parameters						
Chlorophyll a	**12.7**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**140**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**47**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQREF1 (5080309-11) [Water] Sampled: Aug-01-15 16:00						
General Parameters						
Chlorophyll a	**20.8**	0.1	µg/L	Aug-07-15	Aug-11-15	HT1
Solids, Total	**210**	10	mg/L	N/A	Aug-12-15	HT1
Solids, Total Volatile	**73**	10	mg/L	N/A	Aug-12-15	HT1
Sample ID: AQ00-1 (5080309-12) [Soil] Sampled: Jul-26-15 10:00						
General Parameters						
Carbon, Total Organic	**1.65**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**35.7**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.6**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1500**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**290**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**47**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**20**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**6.7**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.9**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**7.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**174**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-1 (5080309-12) [Soil] Sampled: Jul-26-15 10:00, Continued						
Strong Acid Leachable Metals, Continued						
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.19**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7010**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**29.6**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**18.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**22300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**284**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.07**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**715**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1150**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**274**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**40.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**972**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**12.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**49.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**66**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ00-2 (5080309-13) [Soil] Sampled: Jul-26-15 10:00						
General Parameters						
Carbon, Total Organic	**23.8**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**60.4**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.6**	0.1	pH units	Aug-18-15	Aug-18-15	
Strong Acid Leachable Metals						
Aluminum	**16500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**6.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**208**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-2 (5080309-13) [Soil] Sampled: Jul-26-15 10:00, Continued						
Strong Acid Leachable Metals, Continued						
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.20**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**10400**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**33.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**30.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21100**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**16.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6700**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**252**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.15**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**23.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**722**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1300**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.1**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**272**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**59.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	**1000**	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**895**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**54.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**41.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**63**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ00-3 (5080309-14) [Soil] Sampled: Jul-26-15 10:00						
General Parameters						
Carbon, Total Organic	**4.86**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**54.8**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.2**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1400**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**260**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**100**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**45**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-3 (5080309-14) [Soil] Sampled: Jul-26-15 10:00, Continued						
Fertility / Nutrient Parameters, Continued						
Nitrate as N, Available	**2.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16100**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**8.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**183**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.24**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6950**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**28.7**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**17.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**6.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6260**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**525**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.10**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**18.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**658**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1310**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**283**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**40.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**5.4**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1070**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**11.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**52.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**66**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ00-4 (5080309-15) [Soil] Sampled: Jul-26-15 10:00						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-4 (5080309-15) [Soil] Sampled: Jul-26-15 10:00, Continued						
Particle Size Distribution, Continued						
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 2.36 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**0.4**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**1.7**	0.1	%	N/A	Aug-20-15	
> 600 µm	**4.6**	0.1	%	N/A	Aug-20-15	
> 425 µm	**11.0**	0.1	%	N/A	Aug-20-15	
> 300 µm	**6.6**	0.1	%	N/A	Aug-20-15	
> 150 µm	**22.4**	0.1	%	N/A	Aug-20-15	
> 75 µm	**16.6**	0.1	%	N/A	Aug-20-15	
< 75 µm	**36.7**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ02-1 (5080309-16) [Soil] Sampled: Jul-26-15 14:00						
General Parameters						
Carbon, Total Organic	**10.3**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**34.6**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.8**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2140**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**393**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**79**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**24**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**9.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**9.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**199**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.27**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8090**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**30.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**11.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**20.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**24800**	20	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-1 (5080309-16) [Soil] Sampled: Jul-26-15 14:00, Continued						
Strong Acid Leachable Metals, Continued						
Lead	**6.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6470**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**559**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.07**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**711**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**273**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**45.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**5.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1050**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**11.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**54.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**68**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ02-2 (5080309-17) [Soil] Sampled: Jul-26-15 14:00						
General Parameters						
Carbon, Total Organic	**5.21**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**41.9**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.3**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2150**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**385**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**79**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**21**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**16**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**9.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**198**	1	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-2 (5080309-17) [Soil] Sampled: Jul-26-15 14:00, Continued						
Strong Acid Leachable Metals, Continued						
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.23**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7740**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**30.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**18.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**24700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6510**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**498**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**700**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**279**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**43.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.4**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1090**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**10.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**54.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**68**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ02-3 (5080309-18) [Soil] Sampled: Aug-01-15 15:10						
General Parameters						
Carbon, Total Organic	**6.15**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**57.4**	0.1	% wet	N/A	Aug-05-15	
pH (1:2 H2O Solution)	**6.3**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2430**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**421**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**130**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**34**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-3 (5080309-18) [Soil] Sampled: Aug-01-15 15:10, Continued						
Fertility / Nutrient Parameters, Continued						
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.9**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**8.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**201**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.23**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7700**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**31.0**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**11.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**20.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**25800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**6.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6770**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**569**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**637**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1260**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**273**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**44.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**5.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1070**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**7.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**56.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**70**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ02-3R (5080309-19) [Soil] Sampled: Aug-01-15 15:10						
General Parameters						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-3R (5080309-19) [Soil] Sampled: Aug-01-15 15:10, Continued						
General Parameters, Continued						
Carbon, Total Organic	**7.34**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**51.4**	0.1	% wet	N/A	Aug-05-15	
pH (1:2 H2O Solution)	**6.2**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2050**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**370**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**103**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**20**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**9.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.1**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**8.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**191**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.22**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6970**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**29.5**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**18.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**24600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**6.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6550**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**519**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.07**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**18.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**655**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1190**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**288**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**41.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**5.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ02-3R (5080309-19) [Soil] Sampled: Aug-01-15 15:10, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1080**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**6.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**55.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**67**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ02-4 (5080309-20) [Soil] Sampled: Jul-26-15 14:00						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**1.8**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**0.8**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**3.1**	0.1	%	N/A	Aug-20-15	
> 600 µm	**6.5**	0.1	%	N/A	Aug-20-15	
> 425 µm	**4.7**	0.1	%	N/A	Aug-20-15	
> 300 µm	**7.2**	0.1	%	N/A	Aug-20-15	
> 150 µm	**22.3**	0.1	%	N/A	Aug-20-15	
> 75 µm	**20.1**	0.1	%	N/A	Aug-20-15	
< 75 µm	**33.3**	0.1	%	N/A	Aug-20-15	
Sample ID: AQREF1-1 (5080309-21) [Soil] Sampled: Jul-27-15 16:00						
General Parameters						
Carbon, Total Organic	**0.95**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**7.3**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.8**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1350**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**290**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**31**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**13**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**13600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**22.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-1 (5080309-21) [Soil] Sampled: Jul-27-15 16:00, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**374**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.31**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7570**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**26.7**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**18.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**25200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**8.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5920**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**429**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**1.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**17.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**1110**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1050**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.1**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**218**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**44.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**701**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**2.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**56.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**74**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF1-2 (5080309-22) [Soil] Sampled: Jul-27-15 16:00						
General Parameters						
Carbon, Total Organic	**2.51**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**53.4**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.8**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2500**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**488**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**45**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-2 (5080309-22) [Soil] Sampled: Jul-27-15 16:00, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**48**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.5**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14000**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**14.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**388**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.33**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8730**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**26.4**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**19.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**8.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**343**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.05**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**876**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1100**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**251**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**56.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.1**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**780**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**3.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**49.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**75**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF1-3 (5080309-23) [Soil] Sampled: Jul-27-15 16:00						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3 (5080309-23) [Soil] Sampled: Jul-27-15 16:00, Continued						
General Parameters						
Carbon, Total Organic	**4.28**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**63.8**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.6**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2100**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**400**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**38**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**28**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**13200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**11.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**322**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9070**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**27.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**22.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**20600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**10.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6080**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**242**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**20.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**771**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**884**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**225**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**60.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**5.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3 (5080309-23) [Soil] Sampled: Jul-27-15 16:00, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**700**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**4.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**45.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**70**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF1-3R (5080309-24) [Soil] Sampled: Jul-27-15 16:00						
General Parameters						
Carbon, Total Organic	**5.56**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**55.9**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.5**	0.1	pH units	Aug-18-15	Aug-18-15	
Strong Acid Leachable Metals						
Aluminum	**14500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**325**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9340**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**27.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**22.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6240**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**199**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**20.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**829**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1040**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**246**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**59.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3R (5080309-24) [Soil] Sampled: Jul-27-15 16:00, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**758**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**4.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**49.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**71**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF1-4 (5080309-25) [Soil] Sampled: Jul-27-15 16:00						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**13.0**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**10.0**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**2.2**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**5.3**	0.1	%	N/A	Aug-20-15	
> 600 µm	**5.6**	0.1	%	N/A	Aug-20-15	
> 425 µm	**4.3**	0.1	%	N/A	Aug-20-15	
> 300 µm	**7.8**	0.1	%	N/A	Aug-20-15	
> 150 µm	**23.9**	0.1	%	N/A	Aug-20-15	
> 75 µm	**15.8**	0.1	%	N/A	Aug-20-15	
< 75 µm	**12.1**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ30-1 (5080309-26) [Soil] Sampled: Jul-27-15 17:45						
General Parameters						
Carbon, Total Organic	**2.75**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**20.1**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.7**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1780**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**207**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**44**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**18.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-1 (5080309-26) [Soil] Sampled: Jul-27-15 17:45, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**225**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.23**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9920**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**32.0**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**11.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**21.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**25800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**11.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6290**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**687**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**20.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**667**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1290**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**214**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**64.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**796**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**7.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**47.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**72**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ30-2 (5080309-27) [Soil] Sampled: Jul-27-15 17:45						
General Parameters						
Carbon, Total Organic	**3.00**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**6.9**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.8**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1290**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**143**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**30**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-2 (5080309-27) [Soil] Sampled: Jul-27-15 17:45, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**11**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**7**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**15.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**210**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9290**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**27.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**11.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**20.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**24000**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**12.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5610**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**706**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.07**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**19.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**667**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1150**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**209**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**59.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**10.4**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**679**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**6.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**41.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**72**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ30-3 (5080309-28) [Soil] Sampled: Jul-27-15 17:45						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-3 (5080309-28) [Soil] Sampled: Jul-27-15 17:45, Continued						
General Parameters						
Carbon, Total Organic	**4.04**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**36**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.3**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1850**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**220**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**68**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**13**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**9.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**7**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**11700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**179**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.09**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**11300**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**26.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**29.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**19800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5840**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**413**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**22.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**664**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1290**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**242**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**57.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ30-3 (5080309-28) [Soil] Sampled: Jul-27-15 17:45, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**800**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**4.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**36.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**65**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**4**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ30-4 (5080309-29) [Soil] Sampled: Jul-27-15 17:45						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**0.4**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**3.1**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**2.0**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**6.2**	0.1	%	N/A	Aug-20-15	
> 600 µm	**9.9**	0.1	%	N/A	Aug-20-15	
> 425 µm	**5.4**	0.1	%	N/A	Aug-20-15	
> 300 µm	**5.7**	0.1	%	N/A	Aug-20-15	
> 150 µm	**12.4**	0.1	%	N/A	Aug-20-15	
> 75 µm	**14.1**	0.1	%	N/A	Aug-20-15	
< 75 µm	**40.9**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ11-1 (5080309-30) [Soil] Sampled: Jul-28-15 11:45						
General Parameters						
Carbon, Total Organic	**7.83**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**43.3**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.4**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**3570**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**550**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**97**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**43**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**17.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

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PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-1 (5080309-30) [Soil] Sampled: Jul-28-15 11:45, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**208**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.48**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8810**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**36.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**12.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**26.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**27000**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**11.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**16.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6990**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**768**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**1.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**27.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**621**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1290**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**262**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**50.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**999**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**7.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**55.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**79**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ11-2 (5080309-31) [Soil] Sampled: Jul-28-15 11:45						
General Parameters						
Carbon, Total Organic	**3.25**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**36.3**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**6.4**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2140**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**336**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**96**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-2 (5080309-31) [Soil] Sampled: Jul-28-15 11:45, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**29**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**11.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**151**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6920**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**30.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23000**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5850**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**478**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.05**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**20.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**676**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1090**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**251**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**38.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1060**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**6.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**49.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**72**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ11-4 (5080309-33) [Soil] Sampled: Jul-28-15 11:45						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ11-4 (5080309-33) [Soil] Sampled: Jul-28-15 11:45, Continued						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**2.4**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**5.8**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**2.7**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**8.3**	0.1	%	N/A	Aug-20-15	
> 600 µm	**10.6**	0.1	%	N/A	Aug-20-15	
> 425 µm	**11.2**	0.1	%	N/A	Aug-20-15	
> 300 µm	**20.8**	0.1	%	N/A	Aug-20-15	
> 150 µm	**23.7**	0.1	%	N/A	Aug-20-15	
> 75 µm	**9.4**	0.1	%	N/A	Aug-20-15	
< 75 µm	**5.0**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ10-1 (5080309-34) [Soil] Sampled: Jul-28-15 14:05						
General Parameters						
Carbon, Total Organic	**3.48**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**55.1**	0.1	% wet	Aug-07-15	Aug-10-15	
pH (1:2 H2O Solution)	**5.8**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2210**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**364**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**157**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**26**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**18700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**14.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**180**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.30**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8530**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**35.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**12.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**19.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-1 (5080309-34) [Soil] Sampled: Jul-28-15 14:05, Continued						
Strong Acid Leachable Metals, Continued						
Iron	**27200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**10.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**17.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6910**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**870**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**24.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**662**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1200**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**279**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**46.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1050**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**8.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**54.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**80**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ10-2 (5080309-35) [Soil] Sampled: Jul-28-15 14:05						
General Parameters						
Carbon, Total Organic	**4.61**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**42.6**	0.1	% wet	N/A	Aug-19-15	
pH (1:2 H2O Solution)	**6.5**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1930**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**321**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**83**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**21**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-2 (5080309-35) [Soil] Sampled: Jul-28-15 14:05, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**169**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7700**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**31.7**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**11.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**24800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6300**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**693**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**21.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**670**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1150**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**281**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**40.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1090**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**4.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**50.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**75**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ10-3 (5080309-36) [Soil] Sampled: Jul-28-15 14:05						
General Parameters						
Carbon, Total Organic	**4.35**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**50.7**	0.1	% wet	N/A	Aug-19-15	
pH (1:2 H2O Solution)	**6.3**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1790**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**279**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**100**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-3 (5080309-36) [Soil] Sampled: Jul-28-15 14:05, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**20**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16100**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**11.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**164**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.27**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7530**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**31.9**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23900**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**10.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**14.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5970**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**605**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**21.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**700**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1050**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**279**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**40.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1090**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**5.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**51.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**73**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ10-3R (5080309-37) [Soil] Sampled: Jul-28-15 14:05						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-3R (5080309-37) [Soil] Sampled: Jul-28-15 14:05, Continued						
General Parameters						
Carbon, Total Organic	**3.81**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**44.2**	0.1	% wet	N/A	Aug-19-15	
pH (1:2 H2O Solution)	**6.1**	0.1	pH units	Aug-18-15	Aug-18-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1640**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**275**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**91**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**8**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**8.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**149**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.21**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6340**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**29.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**14.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5710**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**479**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**18.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**650**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**942**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**254**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**34.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**6.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ10-3R (5080309-37) [Soil] Sampled: Jul-28-15 14:05, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1040**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**3.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**46.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**68**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ10-4 (5080309-38) [Soil] Sampled: Jul-28-15 14:05						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**7.2**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**3.3**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**1.4**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**5.8**	0.1	%	N/A	Aug-20-15	
> 600 µm	**10.1**	0.1	%	N/A	Aug-20-15	
> 425 µm	**7.4**	0.1	%	N/A	Aug-20-15	
> 300 µm	**10.1**	0.1	%	N/A	Aug-20-15	
> 150 µm	**24.7**	0.1	%	N/A	Aug-20-15	
> 75 µm	**16.6**	0.1	%	N/A	Aug-20-15	
< 75 µm	**13.3**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ04-1 (5080309-39) [Soil] Sampled: Jul-29-15 11:50						
General Parameters						
Carbon, Total Organic	**5.34**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**24.7**	0.1	% wet	N/A	Aug-19-15	
pH (1:2 H2O Solution)	**6.9**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1450**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**235**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**54**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**14**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**6.7**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**4.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-1 (5080309-39) [Soil] Sampled: Jul-29-15 11:50, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**120**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.09**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6050**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**26.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**7.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**13.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5810**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**323**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.05**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**15.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**541**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**846**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**261**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**45.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**8.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1040**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**11.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**46.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**52**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04-2 (5080309-40) [Soil] Sampled: Jul-29-15 11:50						
General Parameters						
Carbon, Total Organic	**5.44**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**53.1**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**7.1**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2600**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**380**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**98**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-2 (5080309-40) [Soil] Sampled: Jul-29-15 11:50, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**40**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.9**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**6**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**162**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.30**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7200**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**26.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21900**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**10.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5050**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**738**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.10**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**17.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**518**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**870**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**2.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**179**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**64.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**804**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**9.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**41.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**73**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04-3 (5080309-41) [Soil] Sampled: Jul-29-15 11:50						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-3 (5080309-41) [Soil] Sampled: Jul-29-15 11:50, Continued						
General Parameters						
Carbon, Total Organic	**5.43**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**36.6**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2210**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**364**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**80**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**20**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**9.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.6**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**18200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**11.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**184**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.29**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7490**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**32.9**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**17.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**25400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**11.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**15.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6450**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**726**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.09**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**21.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**573**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1140**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**2.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**242**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**62.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**10.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-3 (5080309-41) [Soil] Sampled: Jul-29-15 11:50, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**952**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**12.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**50.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**74**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04-3R (5080309-42) [Soil] Sampled: Jul-29-15 11:50						
General Parameters						
Carbon, Total Organic	**5.26**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**49**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.8**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2140**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**314**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**63**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**170**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.28**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7230**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**30.9**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**11.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**15.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5930**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**548**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.09**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**20.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**532**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1020**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04-3R (5080309-42) [Soil] Sampled: Jul-29-15 11:50, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**237**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**60.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**10.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**922**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**12.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**44.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**74**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04-4 (5080309-43) [Soil] Sampled: Jul-29-15 11:50						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**0.9**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**3.7**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**1.7**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**8.3**	0.1	%	N/A	Aug-20-15	
> 600 µm	**19.8**	0.1	%	N/A	Aug-20-15	
> 425 µm	**18.5**	0.1	%	N/A	Aug-20-15	
> 300 µm	**22.8**	0.1	%	N/A	Aug-20-15	
> 150 µm	**17.5**	0.1	%	N/A	Aug-20-15	
> 75 µm	**4.8**	0.1	%	N/A	Aug-20-15	
< 75 µm	**2.0**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ13-1 (5080309-44) [Soil] Sampled: Jul-30-15 14:35						
General Parameters						
Carbon, Total Organic	**5.32**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**48**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**4.4**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1000**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**143**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**69**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-1 (5080309-44) [Soil] Sampled: Jul-30-15 14:35, Continued						
Fertility / Nutrient Parameters, Continued						
Sodium, Available	**16**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**11.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**19100**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**19.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**111**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.08**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**3840**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**54.6**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**16.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**25300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**7960**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**387**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**1.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**29.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**480**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1760**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**236**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**30.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**1.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1180**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**2.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**64.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**60**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ13-2 (5080309-45) [Soil] Sampled: Jul-30-15 14:35						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-2 (5080309-45) [Soil] Sampled: Jul-30-15 14:35, Continued						
General Parameters						
Carbon, Total Organic	**4.76**	0.05	% dry	Aug-12-15	Aug-13-15	
Moisture	**48.4**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.6**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2640**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**207**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**100**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**34**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**22500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**37.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**185**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.30**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9010**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**62.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**14.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**25.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**28800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**8.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**17.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**8650**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**901**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**38.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**547**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**2310**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**283**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**62.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**11.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**1.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-2 (5080309-45) [Soil] Sampled: Jul-30-15 14:35, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**1170**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**10.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**51.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**75**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ13-3 (5080309-46) [Soil] Sampled: Jul-30-15 14:35						
General Parameters						
Carbon, Total Organic	**4.43**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**62.1**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.8**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2700**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**210**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**92**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**28**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.4**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17900**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**22.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**137**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.13**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7090**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**48.4**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**17.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**8.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**7120**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**635**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**28.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**469**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1710**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**2.4**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-3 (5080309-46) [Soil] Sampled: Jul-30-15 14:35, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**240**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**45.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1060**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**4.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**43.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**57**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ13-3R (5080309-47) [Soil] Sampled: Jul-30-15 14:35						
General Parameters						
Carbon, Total Organic	**2.73**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**39.7**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.5**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2400**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**210**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**108**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**24**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.8**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**5**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**20.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**132**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.10**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**6060**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**48.9**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**17.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ13-3R (5080309-47) [Soil] Sampled: Jul-30-15 14:35, Continued						
Strong Acid Leachable Metals, Continued						
Lithium	**12.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**7220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**413**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**27.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**526**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1950**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.9**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**263**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**41.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**1160**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**2.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**45.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**55**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ13-4 (5080309-48) [Soil] Sampled: Jul-30-15 14:35						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**2.1**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**3.5**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**1.5**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**5.2**	0.1	%	N/A	Aug-20-15	
> 600 µm	**10.8**	0.1	%	N/A	Aug-20-15	
> 425 µm	**8.9**	0.1	%	N/A	Aug-20-15	
> 300 µm	**11.4**	0.1	%	N/A	Aug-20-15	
> 150 µm	**22.6**	0.1	%	N/A	Aug-20-15	
> 75 µm	**18.1**	0.1	%	N/A	Aug-20-15	
< 75 µm	**15.8**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ20-1 (5080309-49) [Soil] Sampled: Jul-30-15 16:30						

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-1 (5080309-49) [Soil] Sampled: Jul-30-15 16:30, Continued						
General Parameters						
Carbon, Total Organic	**9.05**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**47.4**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**3300**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**480**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**100**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**38**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**9**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14000**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**13.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**167**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.18**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8330**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**32.2**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**16.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**20500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5980**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**578**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.07**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**21.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**634**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1120**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**204**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**72.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**7.3**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-1 (5080309-49) [Soil] Sampled: Jul-30-15 16:30, Continued						
Strong Acid Leachable Metals, Continued						
Titanium	**792**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**17.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**39.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**64**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ20-2 (5080309-50) [Soil] Sampled: Jul-30-15 16:30						
General Parameters						
Carbon, Total Organic	**5.91**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**46**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**7.1**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**3350**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**480**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**101**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**16**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.9**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**15.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**193**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.18**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9460**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**36.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**19.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**15.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6450**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**613**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**24.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**725**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1330**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-2 (5080309-50) [Soil] Sampled: Jul-30-15 16:30, Continued						
Strong Acid Leachable Metals, Continued						
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**223**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**80.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.1**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**912**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**17.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**45.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**61**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ20-3 (5080309-51) [Soil] Sampled: Jul-30-15 16:30						
General Parameters						
Carbon, Total Organic	**10.5**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**48.7**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**7.0**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**3570**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**514**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**99**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**21**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14900**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**14.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**179**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**2**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.17**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**9550**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**34.0**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**19.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**21200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-3 (5080309-51) [Soil] Sampled: Jul-30-15 16:30, Continued						
Strong Acid Leachable Metals, Continued						
Lithium	**13.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6280**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**433**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.06**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**22.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**667**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1220**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**1.2**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**210**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**82.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**8.4**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**763**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**27.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**39.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**57**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ20-3R (5080309-52) [Soil] Sampled: Jul-30-15 16:30						
General Parameters						
Carbon, Total Organic	**10.6**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**43**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**7.0**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**3790**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**486**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**81**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**21**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**10.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.5**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**1.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**12.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**191**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-3R (5080309-52) [Soil] Sampled: Jul-30-15 16:30, Continued						
Strong Acid Leachable Metals, Continued						
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.15**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**10600**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**36.5**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**7.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**24.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**20100**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**7.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**15.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**6440**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**238**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**24.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**680**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**1110**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**198**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**93.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**8.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**742**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**28.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**35.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**54**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ20-4 (5080309-53) [Soil] Sampled: Jul-30-15 16:30						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**1.0**	0.1	%	N/A	Aug-20-15	
> 2.36 mm	**3.0**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**1.3**	0.1	%	N/A	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ20-4 (5080309-53) [Soil] Sampled: Jul-30-15 16:30, Continued						
Particle Size Distribution, Continued						
> 1.18 mm	**5.5**	0.1	%	N/A	Aug-20-15	
> 600 µm	**10.6**	0.1	%	N/A	Aug-20-15	
> 425 µm	**6.6**	0.1	%	N/A	Aug-20-15	
> 300 µm	**7.6**	0.1	%	N/A	Aug-20-15	
> 150 µm	**17.4**	0.1	%	N/A	Aug-20-15	
> 75 µm	**17.3**	0.1	%	N/A	Aug-20-15	
< 75 µm	**29.8**	0.1	%	N/A	Aug-20-15	
Sample ID: AQREF2-1 (5080309-54) [Soil] Sampled: Jul-31-15 11:15						
General Parameters						
Carbon, Total Organic	**3.92**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**31.7**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**7.1**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1800**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**540**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**62**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**30**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	< 1.0	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**13200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**5.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**196**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.21**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**8390**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**33.9**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**10.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**24.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**5.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**7350**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**515**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**34.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**711**	10	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF2-1 (5080309-54) [Soil] Sampled: Jul-31-15 11:15, Continued						
Strong Acid Leachable Metals, Continued						
Potassium	**889**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**390**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**60.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**3.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**860**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**1.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**47.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**64**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**4**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF2-2 (5080309-55) [Soil] Sampled: Jul-31-15 11:15						
General Parameters						
Carbon, Total Organic	**2.98**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**41.9**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2070**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**729**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**64**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**30**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.5**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**12600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**6.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**158**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.16**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7610**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**36.1**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**19.1**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF2-2 (5080309-55) [Soil] Sampled: Jul-31-15 11:15, Continued						
Strong Acid Leachable Metals, Continued						
Iron	**22300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**5.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**7010**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**226**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**33.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**729**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**738**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**360**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**58.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**3.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**821**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**2.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**50.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**62**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**3**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF2-3 (5080309-56) [Soil] Sampled: Jul-31-15 11:15						
General Parameters						
Carbon, Total Organic	**4.34**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**36.1**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**6.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2140**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**1010**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**73**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**57**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**5.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**1.2**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**13800**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**7.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF2-3 (5080309-56) [Soil] Sampled: Jul-31-15 11:15, Continued						
Strong Acid Leachable Metals, Continued						
Barium	**151**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	**4**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.13**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**7840**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**43.4**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**21.7**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**26900**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**6.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**9690**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**207**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	< 0.05	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**42.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**805**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**833**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**490**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**52.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**3.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**960**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**1.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**57.3**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**60**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	**4**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQREF2-4 (5080309-57) [Soil] Sampled: Jul-31-15 11:15						
Particle Size Distribution						
> 80 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 56 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 40 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 25 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 19 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 12.5 mm	< 0.1	0.1	%	N/A	Aug-20-15	
> 4.75 mm	**0.9**	0.1	%	N/A	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF2-4 (5080309-57) [Soil] Sampled: Jul-31-15 11:15, Continued						
Particle Size Distribution, Continued						
> 2.36 mm	**3.3**	0.1	%	N/A	Aug-20-15	
> 2.0 mm	**1.8**	0.1	%	N/A	Aug-20-15	
> 1.18 mm	**7.0**	0.1	%	N/A	Aug-20-15	
> 600 µm	**13.0**	0.1	%	N/A	Aug-20-15	
> 425 µm	**26.6**	0.1	%	N/A	Aug-20-15	
> 300 µm	**29.2**	0.1	%	N/A	Aug-20-15	
> 150 µm	**12.7**	0.1	%	N/A	Aug-20-15	
> 75 µm	**3.2**	0.1	%	N/A	Aug-20-15	
< 75 µm	**2.2**	0.1	%	N/A	Aug-20-15	
Sample ID: AQ04.5-1 (5080309-58) [Soil] Sampled: Aug-01-15 13:45						
General Parameters						
Carbon, Total Organic	**6.49**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**50.8**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.8**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1500**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**264**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**129**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**8.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.9**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**2**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**14300**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**10.2**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**138**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.28**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**4390**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**24.5**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**8.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**10.8**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**20500**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**9.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**10.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**4570**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**933**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.08**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04.5-1 (5080309-58) [Soil] Sampled: Aug-01-15 13:45, Continued						
Strong Acid Leachable Metals, Continued						
Nickel	**14.5**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**509**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**651**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.7**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**180**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**31.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.0**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.5**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**832**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**5.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**42.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**63**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04.5-2 (5080309-59) [Soil] Sampled: Aug-01-15 13:45						
General Parameters						
Carbon, Total Organic	**12.2**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**58.8**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**2210**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**364**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**150**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.5**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	< 2	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**17200**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**21.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**188**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.61**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**5360**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**27.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04.5-2 (5080309-59) [Soil] Sampled: Aug-01-15 13:45, Continued						
Strong Acid Leachable Metals, Continued						
Cobalt	**15.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**15.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**27400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**13.0**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**13.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**4990**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**2050**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.13**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**1.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**17.7**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**569**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**780**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**173**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**41.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**10.8**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**734**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**9.3**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**57.0**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**77**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04.5-3 (5080309-60) [Soil] Sampled: Aug-01-15 13:45						
General Parameters						
Carbon, Total Organic	**6.85**	0.05	% dry	Aug-12-15	Aug-14-15	
Moisture	**56.1**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.9**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1570**	5	mg/kg dry	N/A	Aug-06-15	
Magnesium, Available	**250**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**171**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**19**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**12.0**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**3.7**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**3**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**15500**	20	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04.5-3 (5080309-60) [Soil] Sampled: Aug-01-15 13:45, Continued						
Strong Acid Leachable Metals, Continued						
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**12.9**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**152**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.5**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.36**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**4980**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**25.8**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**9.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**12.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**22700**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**10.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**11.9**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**4880**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**1110**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.11**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**15.6**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**528**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**741**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	< 0.5	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**187**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**36.3**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**826**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**7.0**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**46.4**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**68**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Sample ID: AQ04.5-4 (5080309-61) [Soil] Sampled: Aug-01-15 13:45						
General Parameters						
Carbon, Total Organic	**8.16**	0.05	% dry	Aug-12-15	Aug-12-15	
Moisture	**58.7**	0.1	% wet	N/A	Aug-13-15	
pH (1:2 H2O Solution)	**5.7**	0.1	pH units	Aug-19-15	Aug-19-15	
Fertility / Nutrient Parameters						
Calcium, Available	**1820**	5	mg/kg dry	N/A	Aug-06-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ04.5-4 (5080309-61) [Soil] Sampled: Aug-01-15 13:45, Continued						
Fertility / Nutrient Parameters, Continued						
Magnesium, Available	**271**	5	mg/kg dry	N/A	Aug-06-15	
Potassium, Available	**146**	5	mg/kg dry	N/A	Aug-06-15	
Sodium, Available	**16**	5	mg/kg dry	N/A	Aug-06-15	
Ammonia as N, Available	**9.3**	1.0	mg/kg dry	N/A	Aug-06-15	
Nitrate as N, Available	**2.7**	1.0	mg/kg dry	N/A	Aug-06-15	
Phosphorus, Available	**4**	2	mg/kg dry	N/A	Aug-06-15	
Strong Acid Leachable Metals						
Aluminum	**16400**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Antimony	**0.6**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Arsenic	**13.8**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Barium	**172**	1	mg/kg dry	Aug-18-15	Aug-20-15	
Beryllium	**0.4**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Bismuth	**0.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Boron	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	
Cadmium	**0.49**	0.04	mg/kg dry	Aug-18-15	Aug-20-15	
Calcium	**5180**	100	mg/kg dry	Aug-18-15	Aug-20-15	
Chromium	**27.3**	1.0	mg/kg dry	Aug-18-15	Aug-20-15	
Cobalt	**12.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Copper	**13.2**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Iron	**23600**	20	mg/kg dry	Aug-18-15	Aug-20-15	
Lead	**11.9**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Lithium	**12.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Magnesium	**5000**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Manganese	**1680**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Mercury	**0.12**	0.05	mg/kg dry	Aug-18-15	Aug-20-15	
Molybdenum	**0.8**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Nickel	**17.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Phosphorus	**577**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Potassium	**739**	10	mg/kg dry	Aug-18-15	Aug-20-15	
Selenium	**0.6**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Silicon	< 3000	3000	mg/kg dry	Aug-18-15	Aug-20-15	
Silver	< 0.2	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sodium	**180**	40	mg/kg dry	Aug-18-15	Aug-20-15	
Strontium	**39.4**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Sulfur	< 1000	1000	mg/kg dry	Aug-18-15	Aug-20-15	
Tellurium	< 0.1	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thallium	**0.2**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Thorium	**9.5**	0.5	mg/kg dry	Aug-18-15	Aug-20-15	
Tin	**0.6**	0.2	mg/kg dry	Aug-18-15	Aug-20-15	
Titanium	**759**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Uranium	**6.1**	0.1	mg/kg dry	Aug-18-15	Aug-20-15	
Vanadium	**48.1**	0.4	mg/kg dry	Aug-18-15	Aug-20-15	
Zinc	**69**	2	mg/kg dry	Aug-18-15	Aug-20-15	
Zirconium	< 2	2	mg/kg dry	Aug-18-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 219 (5080309-62) [Tissue (wet)] Sampled: Aug-01-15 14:30						
Metals in Tissue						
Aluminum	**30.6**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.068**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.149**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**2.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.004	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.04	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.059**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**8010**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.08**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.055**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**1.21**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**45**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.022**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**415**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**7.08**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.047**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.02	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**7690**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**3960**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.88**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.02	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**785**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**11.0**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.010**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.04	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**2.56**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.029**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.22**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**29.8**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 041 (5080309-63) [Tissue (wet)] Sampled: Jul-25-15 17:30						
General Parameters						
Moisture	**77.6**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**0.9**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.080**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.069**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.004**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 041 (5080309-63) [Tissue (wet)] Sampled: Jul-25-15 17:30, Continued						
Metals in Tissue, Continued						
Calcium	**656**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.04**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.019**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.39**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**5**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**319**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.53**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.065**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.03**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3840**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5560**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.69**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**305**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.95**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.26**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	< 0.001	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.2**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 042 (5080309-64) [Tissue (wet)] Sampled: Jul-25-15 17:30						
General Parameters						
Moisture	**71.2**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**49.7**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.019**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.216**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**3.24**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.111**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**12300**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.22**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.089**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**1.55**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**85**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.020**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**525**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**16.2**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 042 (5080309-64) [Tissue (wet)] Sampled: Jul-25-15 17:30, Continued						
Metals in Tissue, Continued						
Mercury	**0.084**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	**0.03**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.24**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**13700**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**4500**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**2.74**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**1070**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**26.0**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.010**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**4.41**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.011**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.47**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**61.4**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 052 (5080309-65) [Tissue (wet)] Sampled: Jul-26-15 12:00						
General Parameters						
Moisture	**78.7**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**5.3**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.034**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.068**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.18**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**506**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.03**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.015**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.30**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.007**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**284**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.74**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.090**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3330**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5110**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.18**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**300**	2	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 052 (5080309-65) [Tissue (wet)] Sampled: Jul-26-15 12:00, Continued						
Metals in Tissue, Continued						
Strontium	**0.63**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.41**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.003**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.03**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**4.0**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 054 (5080309-66) [Tissue (wet)] Sampled: Jul-26-15 12:00						
General Parameters						
Moisture	**79**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**1.2**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.012**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.020**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.07**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**287**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.009**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.34**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**4**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**296**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.25**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.050**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3300**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5310**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.29**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**293**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.34**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.005**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.23**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	< 0.001	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.8**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 69 (5080309-67) [Tissue (wet)] Sampled: Jul-26-15 12:00						
General Parameters						
Moisture	**78.2**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**2.2**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.007**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.034**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.11**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**584**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.011**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.64**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**304**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.33**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.072**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3890**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5750**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.73**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**353**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.64**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.008**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.34**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.2**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 70 (5080309-68) [Tissue (wet)] Sampled: Jul-26-15 16:30						
General Parameters						
Moisture	**78**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**1.3**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.032**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 70 (5080309-68) [Tissue (wet)] Sampled: Jul-26-15 16:30, Continued						
Metals in Tissue, Continued						
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**499**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.009**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.42**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**322**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.45**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.062**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3840**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5790**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.56**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**384**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.70**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.004**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.27**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	< 0.001	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**4.6**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 71 (5080309-69) [Tissue (wet)] Sampled: Jul-26-15 16:30						
General Parameters						
Moisture	**77.3**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**3.1**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.060**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.029**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**162**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.014**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.43**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 71 (5080309-69) [Tissue (wet)] Sampled: Jul-26-15 16:30, Continued						
Metals in Tissue, Continued						
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**308**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.33**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.054**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3650**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5880**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.31**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**381**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.18**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.46**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**7.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 72 (5080309-70) [Tissue (wet)] Sampled: Jul-26-15 16:30						
General Parameters						
Moisture	**78.8**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**2.1**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.006**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.028**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.007**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**508**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.04**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.016**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.40**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**8**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**350**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.48**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.039**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3980**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5920**	10	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 72 (5080309-70) [Tissue (wet)] Sampled: Jul-26-15 16:30, Continued						
Metals in Tissue, Continued						
Selenium	**1.79**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**446**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.60**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.005**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.35**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.002**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.5**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 73 (5080309-71) [Tissue (wet)] Sampled: Jul-26-15 16:30						
General Parameters						
Moisture	**78.8**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**2.1**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.053**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.029**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.12**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.4**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.006**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**406**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.011**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.71**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**304**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.33**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.055**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3830**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5780**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.71**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**364**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.47**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.29**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 73 (5080309-71) [Tissue (wet)] Sampled: Jul-26-15 16:30, Continued						
Metals in Tissue, Continued						
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**6.5**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 74 (5080309-72) [Tissue (wet)] Sampled: Jul-26-15 16:30						
General Parameters						
Moisture	**78.7**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**2.7**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.004**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.022**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.15**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.4**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**559**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.02**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.009**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.38**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**9**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**312**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.41**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.092**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3830**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5730**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.42**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**372**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.76**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.004**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.37**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 94 (5080309-73) [Tissue (wet)] Sampled: Jul-27-15 14:30						
General Parameters						
Moisture	**73.8**	0.1	% wet	N/A	Aug-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 94 (5080309-73) [Tissue (wet)] Sampled: Jul-27-15 14:30, Continued						
Metals in Tissue						
Aluminum	**112**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.017**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.164**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**3.54**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	**0.002**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.4**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.057**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**7410**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.30**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.105**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**1.26**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**154**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.036**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**412**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**14.6**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.248**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	**0.04**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.22**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**8450**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**4030**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.76**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**1050**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**11.3**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.015**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**7.97**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.129**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.43**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**51.6**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 96 (5080309-74) [Tissue (wet)] Sampled: Jul-27-15 14:30						
Metals in Tissue						
Aluminum	**2.7**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.073**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**1.51**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.4**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.013**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**6320**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 96 (5080309-74) [Tissue (wet)] Sampled: Jul-27-15 14:30, Continued						
Metals in Tissue, Continued						
Cobalt	**0.016**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.69**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**12**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**362**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**2.89**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.130**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.08**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**7430**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**4010**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.56**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**817**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**10.0**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.009**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.71**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.032**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.05**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**21.1**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 102 (5080309-75) [Tissue (wet)] Sampled: Jul-27-15 15:10						
Metals in Tissue						
Aluminum	**37.6**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.012**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.118**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**3.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.038**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**8670**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.10**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.054**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.97**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**58**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.014**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**409**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**7.99**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.220**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	**0.02**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.13**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**8460**	5	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 102 (5080309-75) [Tissue (wet)] Sampled: Jul-27-15 15:10, Continued						
Metals in Tissue, Continued						
Potassium	**3930**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.39**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**899**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**12.9**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.011**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**2.94**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.081**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.21**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**36.0**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 107 (5080309-76) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**78.1**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**0.7**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.043**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.18**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**705**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.008**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.38**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**5**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**300**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.39**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.075**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3750**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5550**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.23**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**310**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.84**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.25**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 107 (5080309-76) [Tissue (wet)] Sampled: Jul-28-15 10:45, Continued						
Metals in Tissue, Continued						
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 108 (5080309-77) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**79**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**1.2**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.046**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.25**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.004**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**1550**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.013**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.36**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**6**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**318**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.70**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.051**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.07**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**4280**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5500**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.51**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**326**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**1.90**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.32**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**6.0**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 109 (5080309-78) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**78.5**	0.1	% wet	N/A	Aug-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 109 (5080309-78) [Tissue (wet)] Sampled: Jul-28-15 10:45, Continued						
Metals in Tissue						
Aluminum	**1.0**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.035**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.006**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**218**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.013**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.32**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**5**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**279**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.32**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.086**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3100**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5040**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.54**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**295**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.27**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.22**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**6.0**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 110 (5080309-79) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**79.7**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**2.0**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.006**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.032**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.14**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.4**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.008**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 110 (5080309-79) [Tissue (wet)] Sampled: Jul-28-15 10:45, Continued						
Metals in Tissue, Continued						
Calcium	**828**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.01**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.013**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.39**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**6**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**330**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.43**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.037**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.07**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**4010**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5660**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.82**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**315**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.91**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.005**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.34**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.8**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 111 (5080309-80) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**78.8**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**1.2**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.035**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.05**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.004**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**316**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.012**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.30**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**4**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**303**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.23**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 111 (5080309-80) [Tissue (wet)] Sampled: Jul-28-15 10:45, Continued						
Metals in Tissue, Continued						
Mercury	**0.042**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3430**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5590**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.44**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**301**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.32**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.005**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.22**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	< 0.001	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**5.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 112 (5080309-81) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**79.7**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**1.7**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.003**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.031**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.15**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**687**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.02**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.011**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.28**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**5**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.004	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**330**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.50**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.037**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3720**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5730**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.71**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**328**	2	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 112 (5080309-81) [Tissue (wet)] Sampled: Jul-28-15 10:45, Continued						
Metals in Tissue, Continued						
Strontium	**0.74**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.004**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.31**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.001**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**6.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 113 (5080309-82) [Tissue (wet)] Sampled: Jul-28-15 10:45						
General Parameters						
Moisture	**79.5**	0.1	% wet	N/A	Aug-24-15	
Metals in Tissue						
Aluminum	**7.0**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.007**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.038**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**0.18**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.008**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**725**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.03**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.031**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.34**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**14**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.006**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**331**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**0.78**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.036**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.06**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**3720**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**5470**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**2.07**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**356**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**0.84**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.007**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.60**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.003**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.02**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**6.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 205 (5080309-83) [Tissue (wet)] Sampled: Jul-28-15 17:30						
Metals in Tissue						
Aluminum	**32.5**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.023**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.157**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**3.70**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.008	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.08	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.5**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.087**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**9010**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.13**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.038**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.73**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**57**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.024**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**417**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**8.48**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.065**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.04	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.25**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**7670**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**3750**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.40**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.04	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**754**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**13.4**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.007**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.08	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**2.26**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.016**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.27**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**38.2**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 206 (5080309-84) [Tissue (wet)] Sampled: Jul-28-15 17:30						
Metals in Tissue						
Aluminum	**19.4**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.036**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.396**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**3.71**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.011	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.11	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	< 0.5	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.151**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**12800**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.17**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 206 (5080309-84) [Tissue (wet)] Sampled: Jul-28-15 17:30, Continued						
Metals in Tissue, Continued						
Cobalt	**0.053**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.73**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**104**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.088**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**455**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**13.0**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.051**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.05	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.35**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**9340**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**3740**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**2.36**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.05	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**738**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**17.0**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.009**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.1	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**1.24**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.021**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.42**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**61.3**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 207 (5080309-85) [Tissue (wet)] Sampled: Jul-28-15 17:30						
Metals in Tissue						
Aluminum	**3.6**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	< 0.009	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.097**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**2.64**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.009	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.09	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	< 0.5	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.141**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**8080**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	< 0.05	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.024**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**0.53**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**10**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	< 0.018	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**385**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**7.15**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.031**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	< 0.05	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.25**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**6610**	5	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 207 (5080309-85) [Tissue (wet)] Sampled: Jul-28-15 17:30, Continued						
Metals in Tissue, Continued						
Potassium	**3770**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.61**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.05	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**686**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**10.4**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.09	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**0.55**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.006**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.15**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Zinc	**33.5**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	
Sample ID: 208 (5080309-86) [Tissue (wet)] Sampled: Jul-29-15 10:15						
Metals in Tissue						
Aluminum	**28.3**	0.4	mg/kg wet	Aug-11-15	Aug-20-15	
Antimony	**0.005**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Arsenic	**0.126**	0.005	mg/kg wet	Aug-11-15	Aug-20-15	
Barium	**4.58**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Beryllium	< 0.002	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Bismuth	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Boron	**0.3**	0.1	mg/kg wet	Aug-11-15	Aug-20-15	
Cadmium	**0.047**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Calcium	**16200**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Chromium	**0.08**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Cobalt	**0.047**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Copper	**1.12**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Iron	**48**	1	mg/kg wet	Aug-11-15	Aug-20-15	
Lead	**0.016**	0.004	mg/kg wet	Aug-11-15	Aug-20-15	
Magnesium	**440**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Manganese	**14.4**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Mercury	**0.203**	0.002	mg/kg wet	Aug-11-15	Aug-20-15	
Molybdenum	**0.02**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Nickel	**0.15**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Phosphorus	**13000**	5	mg/kg wet	Aug-11-15	Aug-20-15	
Potassium	**3780**	10	mg/kg wet	Aug-11-15	Aug-20-15	
Selenium	**1.22**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Silver	< 0.01	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Sodium	**1300**	2	mg/kg wet	Aug-11-15	Aug-20-15	
Strontium	**24.6**	0.01	mg/kg wet	Aug-11-15	Aug-20-15	
Thallium	**0.013**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Tin	< 0.02	0.02	mg/kg wet	Aug-11-15	Aug-20-15	
Titanium	**2.51**	0.05	mg/kg wet	Aug-11-15	Aug-20-15	
Uranium	**0.175**	0.001	mg/kg wet	Aug-11-15	Aug-20-15	
Vanadium	**0.27**	0.02	mg/kg wet	Aug-11-15	Aug-20-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 208 (5080309-86) [Tissue (wet)] Sampled: Jul-29-15 10:15, Continued						
Metals in Tissue, Continued						
Zinc	**71.7**	0.5	mg/kg wet	Aug-11-15	Aug-20-15	

Sample / Analysis Qualifiers:

HT1 The sample was prepared / analyzed past the recommended holding time.

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
General Parameters, Batch B5H0298										
Blank (B5H0298-BLK1)				Prepared: Aug-07-15, Analyzed: Aug-11-15						
Chlorophyll a	< 0.1	0.1	µg/L							
General Parameters, Batch B5H0312										
Duplicate (B5H0312-DUP1)		**Source: 5080309-34**		Prepared: Aug-07-15, Analyzed: Aug-10-15						
Moisture	61.3	0.1	% wet		55.1			10.7	8.3	
General Parameters, Batch B5H0443										
Blank (B5H0443-BLK1)				Prepared: Aug-12-15, Analyzed: Aug-12-15						
Solids, Total	< 10	10	mg/L							
Solids, Total Volatile	< 10	10	mg/L							
LCS (B5H0443-BS1)				Prepared: Aug-12-15, Analyzed: Aug-12-15						
Solids, Total	72	10	mg/L	200		36	0-200			
Solids, Total Volatile	68	10	mg/L	81.0		84	0-200			
Duplicate (B5H0443-DUP1)		**Source: 5080309-11**		Prepared: Aug-12-15, Analyzed: Aug-12-15						
Solids, Total	210	10	mg/L		210			< 1	20	
Solids, Total Volatile	87	10	mg/L		73			17	20	
General Parameters, Batch B5H0496										
Blank (B5H0496-BLK1)				Prepared: Aug-12-15, Analyzed: Aug-12-15						
Carbon, Total Organic	< 0.05	0.05	% dry							
Blank (B5H0496-BLK2)				Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	< 0.05	0.05	% dry							
Blank (B5H0496-BLK3)				Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	< 0.05	0.05	% dry							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
General Parameters, Batch B5H0496, Continued										
Duplicate (B5H0496-DUP2)		**Source: 5080309-47**		Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	2.64	0.05	% dry		2.73			3	30	
Duplicate (B5H0496-DUP3)		**Source: 5080309-60**		Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	7.73	0.05	% dry		6.85			12	30	
Reference (B5H0496-SRM1)				Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	1.39	0.05	% dry	1.33		105	10-231			
Reference (B5H0496-SRM2)				Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	2.00	0.05	% dry	1.33		150	10-231			
Reference (B5H0496-SRM3)				Prepared: Aug-12-15, Analyzed: Aug-13-15						
Carbon, Total Organic	1.23	0.05	% dry	1.33		92	10-231			
General Parameters, Batch B5H0536										
Duplicate (B5H0536-DUP1)		**Source: 5080309-50**		Prepared: Aug-13-15, Analyzed: Aug-13-15						
Moisture	49.7	0.1	% wet		46.0			7.7	8.3	
General Parameters, Batch B5H0883										
Duplicate (B5H0883-DUP1)		**Source: 5080309-21**		Prepared: Aug-18-15, Analyzed: Aug-18-15						
pH (1:2 H2O Solution)	6.8	0.1	pH units		6.8			< 1	4	
Reference (B5H0883-SRM1)				Prepared: Aug-18-15, Analyzed: Aug-18-15						
pH (1:2 H2O Solution)	6.3	0.1	pH units	6.26		100	95-105			
General Parameters, Batch B5H0885										
Duplicate (B5H0885-DUP1)		**Source: 5080309-39**		Prepared: Aug-19-15, Analyzed: Aug-19-15						
pH (1:2 H2O Solution)	6.8	0.1	pH units		6.9			2	4	
Reference (B5H0885-SRM1)				Prepared: Aug-19-15, Analyzed: Aug-19-15						
pH (1:2 H2O Solution)	6.2	0.1	pH units	6.26		100	95-105			
Reference (B5H0885-SRM2)				Prepared: Aug-19-15, Analyzed: Aug-19-15						
pH (1:2 H2O Solution)	6.2	0.1	pH units	6.26		99	95-105			
General Parameters, Batch B5H1103										
Duplicate (B5H1103-DUP1)		**Source: 5080309-64**		Prepared: Aug-24-15, Analyzed: Aug-24-15						
Moisture	72.5	0.1	% wet		71.2			1.8	20	
Duplicate (B5H1103-DUP2)		**Source: 5080309-69**		Prepared: Aug-24-15, Analyzed: Aug-24-15						
Moisture	78.3	0.1	% wet		77.3			1.3	20	
Metals in Tissue, Batch B5H0498										
Blank (B5H0498-BLK1)				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5H0498, Continued										
Blank (B5H0498-BLK1), Continued				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							
Zinc	< 0.5	0.5	mg/kg wet							
Blank (B5H0498-BLK2)				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Aluminum	< 0.4	0.4	mg/kg wet							
Antimony	< 0.002	0.002	mg/kg wet							
Arsenic	< 0.005	0.005	mg/kg wet							
Barium	< 0.01	0.01	mg/kg wet							
Beryllium	< 0.002	0.002	mg/kg wet							
Bismuth	< 0.02	0.02	mg/kg wet							
Boron	< 0.1	0.1	mg/kg wet							
Cadmium	< 0.002	0.002	mg/kg wet							
Calcium	< 2	2	mg/kg wet							
Chromium	< 0.01	0.01	mg/kg wet							
Cobalt	< 0.004	0.004	mg/kg wet							
Copper	< 0.01	0.01	mg/kg wet							
Iron	< 1	1	mg/kg wet							
Lead	< 0.004	0.004	mg/kg wet							
Magnesium	< 2	2	mg/kg wet							
Manganese	< 0.02	0.02	mg/kg wet							
Mercury	< 0.002	0.002	mg/kg wet							
Molybdenum	< 0.01	0.01	mg/kg wet							
Nickel	< 0.01	0.01	mg/kg wet							
Phosphorus	< 5	5	mg/kg wet							
Potassium	< 10	10	mg/kg wet							
Selenium	< 0.02	0.02	mg/kg wet							
Silver	< 0.01	0.01	mg/kg wet							
Sodium	< 2	2	mg/kg wet							
Strontium	< 0.01	0.01	mg/kg wet							
Thallium	< 0.001	0.001	mg/kg wet							
Tin	< 0.02	0.02	mg/kg wet							
Titanium	< 0.05	0.05	mg/kg wet							
Uranium	< 0.001	0.001	mg/kg wet							
Vanadium	< 0.02	0.02	mg/kg wet							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5H0498, Continued										
Blank (B5H0498-BLK2), Continued				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Zinc	< 0.5	0.5	mg/kg wet							
Duplicate (B5H0498-DUP1)				**Source: 5080309-67**	Prepared: Aug-11-15, Analyzed: Aug-20-15					
Aluminum	2.3	0.4	mg/kg wet		2.2			3	40	
Antimony	0.009	0.002	mg/kg wet		0.007				40	
Arsenic	0.035	0.005	mg/kg wet		0.034			4	40	
Barium	0.06	0.01	mg/kg wet		0.11			60	40	RPD
Beryllium	< 0.002	0.002	mg/kg wet		< 0.002				40	
Bismuth	< 0.02	0.02	mg/kg wet		< 0.02				40	
Boron	0.3	0.1	mg/kg wet		0.3				40	
Cadmium	0.005	0.002	mg/kg wet		0.005				40	
Calcium	254	2	mg/kg wet		584			79	60	RPD
Chromium	0.02	0.01	mg/kg wet		0.01				40	
Cobalt	0.010	0.004	mg/kg wet		0.011				40	
Copper	0.27	0.01	mg/kg wet		0.64			81	40	RPD
Iron	7	1	mg/kg wet		10			32	40	
Lead	< 0.004	0.004	mg/kg wet		< 0.004				40	
Magnesium	314	2	mg/kg wet		304			3	40	
Manganese	0.30	0.02	mg/kg wet		0.33			9	40	
Mercury	0.066	0.002	mg/kg wet		0.072			8	40	
Molybdenum	< 0.01	0.01	mg/kg wet		< 0.01				40	
Nickel	0.01	0.01	mg/kg wet		0.05			120	40	
Phosphorus	3380	5	mg/kg wet		3890			14	40	
Potassium	5560	10	mg/kg wet		5750			3	40	
Selenium	1.54	0.02	mg/kg wet		1.73			12	40	
Silver	< 0.01	0.01	mg/kg wet		< 0.01				40	
Sodium	347	2	mg/kg wet		353			2	40	
Strontium	0.26	0.01	mg/kg wet		0.64			85	60	RPD
Thallium	0.006	0.001	mg/kg wet		0.008			20	40	
Tin	< 0.02	0.02	mg/kg wet		< 0.02				40	
Titanium	0.38	0.05	mg/kg wet		0.34			13	40	
Uranium	0.001	0.001	mg/kg wet		0.001				40	
Vanadium	< 0.02	0.02	mg/kg wet		< 0.02				40	
Zinc	4.4	0.5	mg/kg wet		5.2			18	40	
Duplicate (B5H0498-DUP2)				**Source: 5080309-72**	Prepared: Aug-11-15, Analyzed: Aug-20-15					
Aluminum	1.4	0.4	mg/kg wet		2.7			64	40	
Antimony	0.002	0.002	mg/kg wet		0.004				40	
Arsenic	0.022	0.005	mg/kg wet		0.022				40	
Barium	0.07	0.01	mg/kg wet		0.15			81	40	RPD
Beryllium	< 0.002	0.002	mg/kg wet		< 0.002				40	
Bismuth	< 0.02	0.02	mg/kg wet		< 0.02				40	
Boron	0.3	0.1	mg/kg wet		0.4				40	
Cadmium	0.005	0.002	mg/kg wet		0.005				40	
Calcium	286	2	mg/kg wet		559			65	60	RPD
Chromium	0.01	0.01	mg/kg wet		0.02				40	
Cobalt	0.009	0.004	mg/kg wet		0.009				40	
Copper	0.46	0.01	mg/kg wet		0.38			19	40	
Iron	9	1	mg/kg wet		9			3	40	
Lead	< 0.004	0.004	mg/kg wet		< 0.004				40	
Magnesium	275	2	mg/kg wet		312			13	40	
Manganese	0.25	0.02	mg/kg wet		0.41			50	40	RPD
Mercury	0.088	0.002	mg/kg wet		0.092			4	40	
Molybdenum	< 0.01	0.01	mg/kg wet		< 0.01				40	
Nickel	0.04	0.01	mg/kg wet		0.06			31	40	
Phosphorus	3210	5	mg/kg wet		3830			18	40	
Potassium	5150	10	mg/kg wet		5730			11	40	

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5H0498, Continued										
Duplicate (B5H0498-DUP2), Continued	**Source: 5080309-72**			Prepared: Aug-11-15, Analyzed: Aug-20-15						
Selenium	1.37	0.02	mg/kg wet		1.42			3	40	
Silver	< 0.01	0.01	mg/kg wet		< 0.01				40	
Sodium	348	2	mg/kg wet		372			6	40	
Strontium	0.37	0.01	mg/kg wet		0.76			69	60	RPD
Thallium	0.004	0.001	mg/kg wet		0.004				40	
Tin	< 0.02	0.02	mg/kg wet		< 0.02				40	
Titanium	0.34	0.05	mg/kg wet		0.37			11	40	
Uranium	< 0.001	0.001	mg/kg wet		0.001				40	
Vanadium	< 0.02	0.02	mg/kg wet		< 0.02				40	
Zinc	4.4	0.5	mg/kg wet		5.3			20	40	
Reference (B5H0498-SRM1)				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Arsenic	63.3	0.005	mg/kg wet	59.5		106	75-125			
Cadmium	37.7	0.002	mg/kg wet	42.3		89	75-125			
Chromium	1.62	0.01	mg/kg wet	1.95		83	75-125			
Cobalt	1.07	0.004	mg/kg wet	1.06		101	75-125			
Copper	448	0.01	mg/kg wet	497		90	75-125			
Iron	165	1	mg/kg wet	179		92	75-125			
Lead	0.168	0.004	mg/kg wet	0.225		75	75-125			
Manganese	15.2	0.02	mg/kg wet	15.6		98	75-125			
Mercury	0.267	0.002	mg/kg wet	0.292		91	75-125			
Molybdenum	3.31	0.01	mg/kg wet	3.44		96	75-125			
Nickel	4.55	0.01	mg/kg wet	5.30		86	75-125			
Selenium	12.4	0.02	mg/kg wet	10.9		114	75-125			
Strontium	35.6	0.01	mg/kg wet	36.5		98	75-125			
Tin	< 0.05	0.02	mg/kg wet	0.0290		98	75-125			
Vanadium	9.42	0.02	mg/kg wet	9.10		104	75-125			
Zinc	135	0.5	mg/kg wet	136		99	75-125			
Reference (B5H0498-SRM2)				Prepared: Aug-11-15, Analyzed: Aug-20-15						
Arsenic	68.6	0.005	mg/kg wet	59.5		115	75-125			
Cadmium	38.7	0.002	mg/kg wet	42.3		91	75-125			
Chromium	1.81	0.01	mg/kg wet	1.95		93	75-125			
Cobalt	1.06	0.004	mg/kg wet	1.06		100	75-125			
Copper	441	0.01	mg/kg wet	497		89	75-125			
Iron	166	1	mg/kg wet	179		93	75-125			
Lead	0.172	0.004	mg/kg wet	0.225		76	75-125			
Manganese	15.4	0.02	mg/kg wet	15.6		98	75-125			
Mercury	0.277	0.002	mg/kg wet	0.292		95	75-125			
Molybdenum	3.34	0.01	mg/kg wet	3.44		97	75-125			
Nickel	4.59	0.01	mg/kg wet	5.30		87	75-125			
Selenium	13.4	0.02	mg/kg wet	10.9		123	75-125			
Strontium	36.8	0.01	mg/kg wet	36.5		101	75-125			
Tin	< 0.05	0.02	mg/kg wet	0.0290		104	75-125			
Vanadium	9.40	0.02	mg/kg wet	9.10		103	75-125			
Zinc	138	0.5	mg/kg wet	136		101	75-125			
Strong Acid Leachable Metals, Batch B5H0854										
Blank (B5H0854-BLK1)				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Aluminum	< 20	20	mg/kg dry							
Antimony	< 0.1	0.1	mg/kg dry							
Arsenic	< 0.4	0.4	mg/kg dry							
Barium	< 1	1	mg/kg dry							
Beryllium	< 0.1	0.1	mg/kg dry							
Bismuth	< 0.1	0.1	mg/kg dry							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5H0854, Continued										
Blank (B5H0854-BLK1), Continued				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Boron	< 2	2	mg/kg dry							
Cadmium	< 0.04	0.04	mg/kg dry							
Calcium	< 100	100	mg/kg dry							
Chromium	< 1.0	1.0	mg/kg dry							
Cobalt	< 0.1	0.1	mg/kg dry							
Copper	< 0.2	0.2	mg/kg dry							
Iron	< 20	20	mg/kg dry							
Lead	< 0.2	0.2	mg/kg dry							
Lithium	< 0.1	0.1	mg/kg dry							
Magnesium	< 10	10	mg/kg dry							
Manganese	< 0.4	0.4	mg/kg dry							
Mercury	< 0.05	0.05	mg/kg dry							
Molybdenum	< 0.1	0.1	mg/kg dry							
Nickel	< 0.4	0.4	mg/kg dry							
Phosphorus	< 10	10	mg/kg dry							
Potassium	< 10	10	mg/kg dry							
Selenium	< 0.5	0.5	mg/kg dry							
Silicon	< 3000	3000	mg/kg dry							
Silver	< 0.2	0.2	mg/kg dry							
Sodium	< 40	40	mg/kg dry							
Strontium	< 0.2	0.2	mg/kg dry							
Sulfur	< 1000	1000	mg/kg dry							
Tellurium	< 0.1	0.1	mg/kg dry							
Thallium	< 0.1	0.1	mg/kg dry							
Thorium	< 0.5	0.5	mg/kg dry							
Tin	< 0.2	0.2	mg/kg dry							
Titanium	< 2	2	mg/kg dry							
Uranium	< 0.1	0.1	mg/kg dry							
Vanadium	< 0.4	0.4	mg/kg dry							
Zinc	< 2	2	mg/kg dry							
Zirconium	< 2	2	mg/kg dry							
Duplicate (B5H0854-DUP1)				**Source: 5080309-19**	Prepared: Aug-18-15, Analyzed: Aug-20-15					
Aluminum	16200	20	mg/kg dry		16700			3	24	
Antimony	0.5	0.1	mg/kg dry		0.4			7	60	
Arsenic	8.0	0.4	mg/kg dry		8.3			3	42	
Barium	190	1	mg/kg dry		191			< 1	38	
Beryllium	0.3	0.1	mg/kg dry		0.4				37	
Bismuth	0.2	0.1	mg/kg dry		0.2				33	
Boron	2	2	mg/kg dry		2				29	
Cadmium	0.22	0.04	mg/kg dry		0.22			2	32	
Calcium	7010	100	mg/kg dry		6970			< 1	33	
Chromium	29.0	1.0	mg/kg dry		29.5			1	32	
Cobalt	10.1	0.1	mg/kg dry		10.2			1	26	
Copper	17.9	0.2	mg/kg dry		18.4			3	38	
Iron	24200	20	mg/kg dry		24600			2	28	
Lead	6.5	0.2	mg/kg dry		6.6			2	46	
Lithium	13.4	0.1	mg/kg dry		13.1			2	28	
Magnesium	6290	10	mg/kg dry		6550			4	23	
Manganese	501	0.4	mg/kg dry		519			4	23	
Mercury	0.05	0.05	mg/kg dry		0.07				42	
Molybdenum	0.8	0.1	mg/kg dry		0.8			5	52	
Nickel	18.1	0.4	mg/kg dry		18.2			< 1	29	
Phosphorus	656	10	mg/kg dry		655			< 1	20	
Potassium	1170	10	mg/kg dry		1190			2	28	
Selenium	1.0	0.5	mg/kg dry		1.2				19	
Silicon	< 3000	3000	mg/kg dry		< 3000				18	

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5H0854, Continued										
Duplicate (B5H0854-DUP1), Continued		**Source: 5080309-19**		Prepared: Aug-18-15, Analyzed: Aug-20-15						
Silver	< 0.2	0.2	mg/kg dry		< 0.2				35	
Sodium	286	40	mg/kg dry		288			< 1	23	
Strontium	40.2	0.2	mg/kg dry		41.2			2	25	
Sulfur	< 1000	1000	mg/kg dry		< 1000				26	
Tellurium	< 0.1	0.1	mg/kg dry		< 0.1				38	
Thallium	0.2	0.1	mg/kg dry		0.2				27	
Thorium	5.3	0.5	mg/kg dry		5.3			< 1	39	
Tin	0.6	0.2	mg/kg dry		0.6				85	
Titanium	1070	2	mg/kg dry		1080			< 1	29	
Uranium	5.9	0.1	mg/kg dry		6.1			3	36	
Vanadium	54.7	0.4	mg/kg dry		55.1			< 1	23	
Zinc	65	2	mg/kg dry		67			2	30	
Zirconium	2	2	mg/kg dry		2				32	
Reference (B5H0854-SRM1)				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Aluminum	16600	20	mg/kg dry	18200		91	86-118			
Antimony	6.4	0.1	mg/kg dry	6.27		102	73-138			
Arsenic	15.4	0.4	mg/kg dry	15.4		100	87-106			
Barium	81	1	mg/kg dry	80.6		101	72-119			
Beryllium	0.5	0.1	mg/kg dry	0.544		100	73-128			
Bismuth	1.9	0.1	mg/kg dry	2.12		87	78-97			
Boron	3	2	mg/kg dry	2.68		126	58-139			
Cadmium	0.21	0.04	mg/kg dry	0.230		93	88-121			
Calcium	3270	100	mg/kg dry	3320		98	92-113			
Chromium	26.0	1.0	mg/kg dry	27.2		96	91-113			
Cobalt	12.3	0.1	mg/kg dry	12.5		98	90-109			
Copper	42.8	0.2	mg/kg dry	44.9		95	92-112			
Iron	31200	20	mg/kg dry	33300		94	91-112			
Lead	13.1	0.2	mg/kg dry	14.4		91	89-111			
Lithium	10.8	0.1	mg/kg dry	9.26		116	73-124			
Magnesium	5310	10	mg/kg dry	5830		91	89-116			
Manganese	1040	0.4	mg/kg dry	1100		95	93-112			
Mercury	0.10	0.05	mg/kg dry	0.0980		104	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		94	93-120			
Nickel	16.5	0.4	mg/kg dry	17.4		95	93-110			
Phosphorus	709	10	mg/kg dry	796		89	86-111			
Potassium	557	10	mg/kg dry	619		90	83-117			
Sodium	284	40	mg/kg dry	340		83	79-130			
Strontium	11.1	0.2	mg/kg dry	11.6		96	85-116			
Thorium	3.5	0.5	mg/kg dry	4.46		80	78-100			
Tin	1.1	0.2	mg/kg dry	1.10		97	78-120			
Titanium	822	2	mg/kg dry	764		108	72-143			
Uranium	0.8	0.1	mg/kg dry	0.940		83	80-102			
Vanadium	49.4	0.4	mg/kg dry	54.9		90	87-116			
Zinc	66	2	mg/kg dry	67.5		98	91-113			
Strong Acid Leachable Metals, Batch B5H0855										
Blank (B5H0855-BLK1)				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Aluminum	< 20	20	mg/kg dry							
Antimony	< 0.1	0.1	mg/kg dry							
Arsenic	< 0.4	0.4	mg/kg dry							
Barium	< 1	1	mg/kg dry							
Beryllium	< 0.1	0.1	mg/kg dry							
Bismuth	< 0.1	0.1	mg/kg dry							
Boron	< 2	2	mg/kg dry							

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5H0855, Continued										
Blank (B5H0855-BLK1), Continued				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Cadmium	< 0.04	0.04	mg/kg dry							
Calcium	< 100	100	mg/kg dry							
Chromium	< 1.0	1.0	mg/kg dry							
Cobalt	< 0.1	0.1	mg/kg dry							
Copper	< 0.2	0.2	mg/kg dry							
Iron	< 20	20	mg/kg dry							
Lead	< 0.2	0.2	mg/kg dry							
Lithium	< 0.1	0.1	mg/kg dry							
Magnesium	< 10	10	mg/kg dry							
Manganese	< 0.4	0.4	mg/kg dry							
Mercury	< 0.05	0.05	mg/kg dry							
Molybdenum	< 0.1	0.1	mg/kg dry							
Nickel	< 0.4	0.4	mg/kg dry							
Phosphorus	< 10	10	mg/kg dry							
Potassium	< 10	10	mg/kg dry							
Selenium	< 0.5	0.5	mg/kg dry							
Silicon	< 3000	3000	mg/kg dry							
Silver	< 0.2	0.2	mg/kg dry							
Sodium	< 40	40	mg/kg dry							
Strontium	< 0.2	0.2	mg/kg dry							
Sulfur	< 1000	1000	mg/kg dry							
Tellurium	< 0.1	0.1	mg/kg dry							
Thallium	< 0.1	0.1	mg/kg dry							
Thorium	< 0.5	0.5	mg/kg dry							
Tin	< 0.2	0.2	mg/kg dry							
Titanium	< 2	2	mg/kg dry							
Uranium	< 0.1	0.1	mg/kg dry							
Vanadium	< 0.4	0.4	mg/kg dry							
Zinc	< 2	2	mg/kg dry							
Zirconium	< 2	2	mg/kg dry							
Duplicate (B5H0855-DUP1)		**Source: 5080309-50**		Prepared: Aug-18-15, Analyzed: Aug-20-15						
Aluminum	15100	20	mg/kg dry		16200			7	24	
Antimony	0.9	0.1	mg/kg dry		0.9			< 1	60	
Arsenic	14.5	0.4	mg/kg dry		15.0			4	42	
Barium	185	1	mg/kg dry		193			4	38	
Beryllium	0.5	0.1	mg/kg dry		0.6			22	37	
Bismuth	0.1	0.1	mg/kg dry		0.1				33	
Boron	2	2	mg/kg dry		2				29	
Cadmium	0.17	0.04	mg/kg dry		0.18				32	
Calcium	8660	100	mg/kg dry		9460			9	33	
Chromium	33.5	1.0	mg/kg dry		36.1			7	32	
Cobalt	9.5	0.1	mg/kg dry		10.2			7	26	
Copper	18.4	0.2	mg/kg dry		19.6			6	38	
Iron	21900	20	mg/kg dry		23400			7	28	
Lead	7.5	0.2	mg/kg dry		7.6			2	46	
Lithium	14.3	0.1	mg/kg dry		15.1			5	28	
Magnesium	6060	10	mg/kg dry		6450			6	23	
Manganese	575	0.4	mg/kg dry		613			6	23	
Mercury	0.06	0.05	mg/kg dry		0.06				42	
Molybdenum	0.5	0.1	mg/kg dry		0.5			4	52	
Nickel	23.4	0.4	mg/kg dry		24.6			5	29	
Phosphorus	660	10	mg/kg dry		725			9	20	
Potassium	1220	10	mg/kg dry		1330			8	28	
Selenium	2.0	0.5	mg/kg dry		1.7				19	
Silicon	< 3000	3000	mg/kg dry		< 3000				18	
Silver	< 0.2	0.2	mg/kg dry		< 0.2				35	

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5H0855, Continued										
Duplicate (B5H0855-DUP1), Continued		**Source: 5080309-50**		Prepared: Aug-18-15, Analyzed: Aug-20-15						
Sodium	212	40	mg/kg dry		223			5	23	
Strontium	74.5	0.2	mg/kg dry		80.8			8	25	
Sulfur	< 1000	1000	mg/kg dry		< 1000				26	
Tellurium	< 0.1	0.1	mg/kg dry		< 0.1				38	
Thallium	0.2	0.1	mg/kg dry		0.2				27	
Thorium	8.7	0.5	mg/kg dry		9.1			4	39	
Tin	0.6	0.2	mg/kg dry		0.6				85	
Titanium	852	2	mg/kg dry		912			7	29	
Uranium	17.1	0.1	mg/kg dry		17.6			3	36	
Vanadium	42.6	0.4	mg/kg dry		45.3			6	23	
Zinc	57	2	mg/kg dry		61			7	30	
Zirconium	2	2	mg/kg dry		3				32	
Reference (B5H0855-SRM1)				Prepared: Aug-18-15, Analyzed: Aug-20-15						
Aluminum	17400	20	mg/kg dry	18200		96	86-118			
Antimony	6.6	0.1	mg/kg dry	6.27		105	73-138			
Arsenic	15.6	0.4	mg/kg dry	15.4		102	87-106			
Barium	82	1	mg/kg dry	80.6		102	72-119			
Beryllium	0.6	0.1	mg/kg dry	0.544		112	73-128			
Bismuth	1.9	0.1	mg/kg dry	2.12		90	78-97			
Boron	3	2	mg/kg dry	2.68		115	58-139			
Cadmium	0.25	0.04	mg/kg dry	0.230		109	88-121			
Calcium	3130	100	mg/kg dry	3320		94	92-113			
Chromium	27.3	1.0	mg/kg dry	27.2		100	91-113			
Cobalt	11.9	0.1	mg/kg dry	12.5		95	90-109			
Copper	44.9	0.2	mg/kg dry	44.9		100	92-112			
Iron	32900	20	mg/kg dry	33300		99	91-112			
Lead	15.3	0.2	mg/kg dry	14.4		106	89-111			
Lithium	10.3	0.1	mg/kg dry	9.26		111	73-124			
Magnesium	5630	10	mg/kg dry	5830		97	89-116			
Manganese	1090	0.4	mg/kg dry	1100		99	93-112			
Mercury	0.11	0.05	mg/kg dry	0.0980		110	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		93	93-120			
Nickel	17.7	0.4	mg/kg dry	17.4		101	93-110			
Phosphorus	723	10	mg/kg dry	796		91	86-111			
Potassium	593	10	mg/kg dry	619		96	83-117			
Sodium	303	40	mg/kg dry	340		89	79-130			
Strontium	11.5	0.2	mg/kg dry	11.6		99	85-116			
Thorium	3.7	0.5	mg/kg dry	4.46		83	78-100			
Tin	1.1	0.2	mg/kg dry	1.10		98	78-120			
Titanium	884	2	mg/kg dry	764		116	72-143			
Uranium	0.8	0.1	mg/kg dry	0.940		84	80-102			
Vanadium	51.5	0.4	mg/kg dry	54.9		94	87-116			
Zinc	69	2	mg/kg dry	67.5		102	91-113			

QC Qualifiers:

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-01	5080309-02	5080309-03	5080309-04	5080309-05	5080309-06
		Water	**Water**	**Water**	**Water**	**Water**	**Water**
		Aug-01-15	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**
		AQREF2	**AQ10**	**AQ11**	**AQ20**	**AQ30**	**AQ13**
General Parameters	Chlorophyll a (ug/L)	19.0	23.5	12.0	23.6	29.0	23.7
	Solids, Total (mg/L)	350	103	143	193	107	140
	Solids, Total Volatile (mg/L)	93	83	37	160	37	70

		5080309-07	5080309-08	5080309-09	5080309-10	5080309-11	5080309-12
		Water	**Water**	**Water**	**Water**	**Water**	**Soil**
		Aug-01-15	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Jul-26-15**
		AQ04.5	**AQ04**	**AQ02**	**AQ00**	**AQREF1**	**AQ00-1**
General Parameters	Carbon, Total Organic (% dry)						1.65
	Chlorophyll a (ug/L)	24.3	11.0	26.6	12.7	20.8	
	Moisture (% wet)						35.7
	pH (1:2 H2O Solution) (pH units)						6.6
	Solids, Total (mg/L)	273	143	183	140	210	
	Solids, Total Volatile (mg/L)	43	53	90	47	73	
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)						1500
	Magnesium, Available (mg/kg dry)						290
	Potassium, Available (mg/kg dry)						47
	Sodium, Available (mg/kg dry)						20
	Ammonia as N, Available (mg/kg dry)						6.7
	Nitrate as N, Available (mg/kg dry)						1.9
	Phosphorus, Available (mg/kg dry)						5
Strong Acid Leachable Metals	Aluminum (mg/kg dry)						15200
	Antimony (mg/kg dry)						0.5
	Arsenic (mg/kg dry)						7.3
	Barium (mg/kg dry)						174
	Beryllium (mg/kg dry)						0.4
	Bismuth (mg/kg dry)						0.2
	Boron (mg/kg dry)						2
	Cadmium (mg/kg dry)						0.19
	Calcium (mg/kg dry)						7010
	Chromium (mg/kg dry)						29.6
	Cobalt (mg/kg dry)						9.1
	Copper (mg/kg dry)						18.9
	Iron (mg/kg dry)						22300
	Lead (mg/kg dry)						7.2
	Lithium (mg/kg dry)						14.2
	Magnesium (mg/kg dry)						6220
	Manganese (mg/kg dry)						284
	Mercury (mg/kg dry)						0.07
	Molybdenum (mg/kg dry)						0.8

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-07	5080309-08	5080309-09	5080309-10	5080309-11	5080309-12
		Water	**Water**	**Water**	**Water**	**Water**	**Soil**
		Aug-01-15	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Jul-26-15**
		AQ04.5	**AQ04**	**AQ02**	**AQ00**	**AQREF1**	**AQ00-1**
Strong Acid Leachable Metals	Nickel (mg/kg dry)						19.0
	Phosphorus (mg/kg dry)						715
	Potassium (mg/kg dry)						1150
	Selenium (mg/kg dry)						0.8
	Silicon (mg/kg dry)						< 3000
	Silver (mg/kg dry)						< 0.2
	Sodium (mg/kg dry)						274
	Strontium (mg/kg dry)						40.6
	Sulfur (mg/kg dry)						< 1000
	Tellurium (mg/kg dry)						< 0.1
	Thallium (mg/kg dry)						0.1
	Thorium (mg/kg dry)						6.6
	Tin (mg/kg dry)						0.5
	Titanium (mg/kg dry)						972
	Uranium (mg/kg dry)						12.4
	Vanadium (mg/kg dry)						49.6
	Zinc (mg/kg dry)						66
	Zirconium (mg/kg dry)						< 2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-13	5080309-14	5080309-15	5080309-16	5080309-17	5080309-18
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-26-15	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Aug-01-15**
		AQ00-2	**AQ00-3**	**AQ00-4**	**AQ02-1**	**AQ02-2**	**AQ02-3**
General Parameters	Carbon, Total Organic (% dry)	23.8	4.86		10.3	5.21	6.15
	Moisture (% wet)	60.4	54.8		34.6	41.9	57.4
	pH (1:2 H2O Solution) (pH units)	6.6	6.2		6.8	6.3	6.3
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)		1400		2140	2150	2430
	Magnesium, Available (mg/kg dry)		260		393	385	421
	Potassium, Available (mg/kg dry)		100		79	79	130
	Sodium, Available (mg/kg dry)		45		24	21	34
	Ammonia as N, Available (mg/kg dry)		12.0		9.3	8.0	8.0
	Nitrate as N, Available (mg/kg dry)		2.3		1.8	1.3	1.9
	Phosphorus, Available (mg/kg dry)		6		5	16	4
Particle Size Distribution	> 80 mm (%)			< 0.1			
	> 56 mm (%)			< 0.1			
	> 40 mm (%)			< 0.1			
	> 25 mm (%)			< 0.1			
	> 19 mm (%)			< 0.1			
	> 12.5 mm (%)			< 0.1			
	> 4.75 mm (%)			< 0.1			
	> 2.36 mm (%)			< 0.1			
	> 2.0 mm (%)			0.4			
	> 1.18 mm (%)			1.7			
	> 600 µm (%)			4.6			
	> 425 µm (%)			11.0			
	> 300 µm (%)			6.6			
	> 150 µm (%)			22.4			
	> 75 µm (%)			16.6			
	< 75 µm (%)			36.7			
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	16500	16100		16500	16600	17400
	Antimony (mg/kg dry)	0.6	0.4		0.5	0.5	0.5
	Arsenic (mg/kg dry)	6.5	8.2		9.6	9.2	8.5
	Barium (mg/kg dry)	208	183		199	198	201
	Beryllium (mg/kg dry)	0.5	0.4		0.3	0.4	0.4
	Bismuth (mg/kg dry)	0.2	0.2		0.2	0.2	0.2
	Boron (mg/kg dry)	3	2		2	2	2
	Cadmium (mg/kg dry)	0.20	0.24		0.27	0.23	0.23
	Calcium (mg/kg dry)	10400	6950		8090	7740	7700
	Chromium (mg/kg dry)	33.8	28.7		30.3	30.3	31.0
	Cobalt (mg/kg dry)	8.3	10.3		11.1	10.4	11.0
	Copper (mg/kg dry)	30.5	17.9		20.0	18.5	20.4
	Iron (mg/kg dry)	21100	23800		24800	24700	25800
	Lead (mg/kg dry)	7.5	6.5		6.9	7.6	6.9
	Lithium (mg/kg dry)	16.6	13.3		13.7	14.3	13.8
	Magnesium (mg/kg dry)	6700	6260		6470	6510	6770
	Manganese (mg/kg dry)	252	525		559	498	569
	Mercury (mg/kg dry)	0.15	0.10		0.07	0.06	0.08

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-13	5080309-14	5080309-15	5080309-16	5080309-17	5080309-18
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-26-15	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Aug-01-15**
		AQ00-2	**AQ00-3**	**AQ00-4**	**AQ02-1**	**AQ02-2**	**AQ02-3**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	0.9	0.8		0.9	0.9	0.9
	Nickel (mg/kg dry)	23.9	18.5		19.5	19.4	19.2
	Phosphorus (mg/kg dry)	722	658		711	700	637
	Potassium (mg/kg dry)	1300	1310		1220	1220	1260
	Selenium (mg/kg dry)	1.1	0.6		1.2	0.6	0.9
	Silicon (mg/kg dry)	< 3000	< 3000		< 3000	< 3000	< 3000
	Silver (mg/kg dry)	< 0.2	< 0.2		< 0.2	< 0.2	< 0.2
	Sodium (mg/kg dry)	272	283		273	279	273
	Strontium (mg/kg dry)	59.5	40.0		45.2	43.3	44.0
	Sulfur (mg/kg dry)	1000	< 1000		< 1000	< 1000	< 1000
	Tellurium (mg/kg dry)	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1
	Thallium (mg/kg dry)	0.2	0.2		0.2	0.2	0.2
	Thorium (mg/kg dry)	7.6	5.4		5.8	6.4	5.3
	Tin (mg/kg dry)	0.7	0.5		0.5	0.5	0.5
	Titanium (mg/kg dry)	895	1070		1050	1090	1070
	Uranium (mg/kg dry)	54.6	11.3		11.0	10.9	7.8
	Vanadium (mg/kg dry)	41.9	52.7		54.8	54.6	56.3
	Zinc (mg/kg dry)	63	66		68	68	70
	Zirconium (mg/kg dry)	3	2		2	2	2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-19	5080309-20	5080309-21	5080309-22	5080309-23	5080309-24
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Aug-01-15	**Jul-26-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**
		AQ02-3R	**AQ02-4**	**AQREF1-1**	**AQREF1-2**	**AQREF1-3**	**AQREF1-3R**
General Parameters	Carbon, Total Organic (% dry)	7.34		0.95	2.51	4.28	5.56
	Moisture (% wet)	51.4		7.3	53.4	63.8	55.9
	pH (1:2 H2O Solution) (pH units)	6.2		6.8	6.8	6.6	6.5
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)	2050		1350	2500	2100	
	Magnesium, Available (mg/kg dry)	370		290	488	400	
	Potassium, Available (mg/kg dry)	103		31	45	38	
	Sodium, Available (mg/kg dry)	20		13	48	28	
	Ammonia as N, Available (mg/kg dry)	9.3		5.3	8.0	8.0	
	Nitrate as N, Available (mg/kg dry)	1.1		< 1.0	1.5	1.8	
	Phosphorus, Available (mg/kg dry)	3		3	6	6	
Particle Size Distribution	> 80 mm (%)		< 0.1				
	> 56 mm (%)		< 0.1				
	> 40 mm (%)		< 0.1				
	> 25 mm (%)		< 0.1				
	> 19 mm (%)		< 0.1				
	> 12.5 mm (%)		< 0.1				
	> 4.75 mm (%)		< 0.1				
	> 2.36 mm (%)		1.8				
	> 2.0 mm (%)		0.8				
	> 1.18 mm (%)		3.1				
	> 600 µm (%)		6.5				
	> 425 µm (%)		4.7				
	> 300 µm (%)		7.2				
	> 150 µm (%)		22.3				
	> 75 µm (%)		20.1				
	< 75 µm (%)		33.3				
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	16700		13600	14000	13200	14500
	Antimony (mg/kg dry)	0.4		1.6	1.3	1.5	1.5
	Arsenic (mg/kg dry)	8.3		22.7	14.6	11.5	10.9
	Barium (mg/kg dry)	191		374	388	322	325
	Beryllium (mg/kg dry)	0.4		0.4	0.4	0.5	0.5
	Bismuth (mg/kg dry)	0.2		0.2	0.2	0.2	0.2
	Boron (mg/kg dry)	2		2	2	2	2
	Cadmium (mg/kg dry)	0.22		0.31	0.33	0.29	0.29
	Calcium (mg/kg dry)	6970		7570	8730	9070	9340
	Chromium (mg/kg dry)	29.5		26.7	26.4	27.3	27.3
	Cobalt (mg/kg dry)	10.2		8.4	9.1	8.6	9.2
	Copper (mg/kg dry)	18.4		18.2	19.5	22.0	22.3
	Iron (mg/kg dry)	24600		25200	23400	20600	21400
	Lead (mg/kg dry)	6.6		8.9	8.7	10.1	9.5
	Lithium (mg/kg dry)	13.1		11.4	12.8	11.5	12.2
	Magnesium (mg/kg dry)	6550		5920	6220	6080	6240
	Manganese (mg/kg dry)	519		429	343	242	199
	Mercury (mg/kg dry)	0.07		< 0.05	0.05	0.06	0.06

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-19	5080309-20	5080309-21	5080309-22	5080309-23	5080309-24
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Aug-01-15	**Jul-26-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**
		AQ02-3R	**AQ02-4**	**AQREF1-1**	**AQREF1-2**	**AQREF1-3**	**AQREF1-3R**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	0.8		1.1	0.7	0.8	0.8
	Nickel (mg/kg dry)	18.2		17.6	19.9	20.5	20.6
	Phosphorus (mg/kg dry)	655		1110	876	771	829
	Potassium (mg/kg dry)	1190		1050	1100	884	1040
	Selenium (mg/kg dry)	1.2		1.1	1.0	1.2	1.0
	Silicon (mg/kg dry)	< 3000		< 3000	< 3000	< 3000	< 3000
	Silver (mg/kg dry)	< 0.2		< 0.2	< 0.2	< 0.2	< 0.2
	Sodium (mg/kg dry)	288		218	251	225	246
	Strontium (mg/kg dry)	41.2		44.9	56.9	60.6	59.6
	Sulfur (mg/kg dry)	< 1000		< 1000	< 1000	< 1000	< 1000
	Tellurium (mg/kg dry)	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
	Thallium (mg/kg dry)	0.2		0.1	0.1	0.1	0.2
	Thorium (mg/kg dry)	5.3		6.7	6.1	5.8	6.3
	Tin (mg/kg dry)	0.6		0.4	0.5	0.4	0.5
	Titanium (mg/kg dry)	1080		701	780	700	758
	Uranium (mg/kg dry)	6.1		2.9	3.6	4.5	4.4
	Vanadium (mg/kg dry)	55.1		56.2	49.5	45.8	49.3
	Zinc (mg/kg dry)	67		74	75	70	71
	Zirconium (mg/kg dry)	2		< 2	< 2	< 2	< 2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-25	5080309-26	5080309-27	5080309-28	5080309-29	5080309-30
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-27-15	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-28-15**
		AQREF1-4	**AQ30-1**	**AQ30-2**	**AQ30-3**	**AQ30-4**	**AQ11-1**
General Parameters	Carbon, Total Organic (% dry)		2.75	3.00	4.04		7.83
	Moisture (% wet)		20.1	6.9	36		43.3
	pH (1:2 H2O Solution) (pH units)		6.7	6.8	6.3		6.4
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)		1780	1290	1850		3570
	Magnesium, Available (mg/kg dry)		207	143	220		550
	Potassium, Available (mg/kg dry)		44	30	68		97
	Sodium, Available (mg/kg dry)		19	11	13		43
	Ammonia as N, Available (mg/kg dry)		5.3	5.3	9.3		12.0
	Nitrate as N, Available (mg/kg dry)		1.8	1.0	2.2		1.8
	Phosphorus, Available (mg/kg dry)		4	7	7		5
Particle Size Distribution	> 80 mm (%)	< 0.1				< 0.1	
	> 56 mm (%)	< 0.1				< 0.1	
	> 40 mm (%)	< 0.1				< 0.1	
	> 25 mm (%)	< 0.1				< 0.1	
	> 19 mm (%)	< 0.1				< 0.1	
	> 12.5 mm (%)	< 0.1				< 0.1	
	> 4.75 mm (%)	13.0				0.4	
	> 2.36 mm (%)	10.0				3.1	
	> 2.0 mm (%)	2.2				2.0	
	> 1.18 mm (%)	5.3				6.2	
	> 600 µm (%)	5.6				9.9	
	> 425 µm (%)	4.3				5.4	
	> 300 µm (%)	7.8				5.7	
	> 150 µm (%)	23.9				12.4	
	> 75 µm (%)	15.8				14.1	
	< 75 µm (%)	12.1				40.9	
Strong Acid Leachable Metals	Aluminum (mg/kg dry)		16700	15200	11700		17500
	Antimony (mg/kg dry)		1.3	1.1	0.7		0.8
	Arsenic (mg/kg dry)		18.0	15.5	10.1		17.1
	Barium (mg/kg dry)		225	210	179		208
	Beryllium (mg/kg dry)		0.7	0.7	0.4		0.5
	Bismuth (mg/kg dry)		0.2	0.2	0.1		0.2
	Boron (mg/kg dry)		3	3	3		2
	Cadmium (mg/kg dry)		0.23	0.29	0.09		0.48
	Calcium (mg/kg dry)		9920	9290	11300		8810
	Chromium (mg/kg dry)		32.0	27.8	26.8		36.1
	Cobalt (mg/kg dry)		11.8	11.1	8.3		12.1
	Copper (mg/kg dry)		21.9	20.0	29.9		26.2
	Iron (mg/kg dry)		25800	24000	19800		27000
	Lead (mg/kg dry)		11.7	12.0	7.0		11.4
	Lithium (mg/kg dry)		14.2	12.6	11.2		16.6
	Magnesium (mg/kg dry)		6290	5610	5840		6990
	Manganese (mg/kg dry)		687	706	413		768
	Mercury (mg/kg dry)		0.08	0.07	< 0.05		0.06

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-25	5080309-26	5080309-27	5080309-28	5080309-29	5080309-30
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-27-15	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-27-15**	**Jul-28-15**
		AQREF1-4	**AQ30-1**	**AQ30-2**	**AQ30-3**	**AQ30-4**	**AQ11-1**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)		0.9	0.8	0.3		1.1
	Nickel (mg/kg dry)		20.9	19.4	22.3		27.0
	Phosphorus (mg/kg dry)		667	667	664		621
	Potassium (mg/kg dry)		1290	1150	1290		1290
	Selenium (mg/kg dry)		0.9	1.2	0.9		0.9
	Silicon (mg/kg dry)		< 3000	< 3000	< 3000		< 3000
	Silver (mg/kg dry)		< 0.2	< 0.2	< 0.2		< 0.2
	Sodium (mg/kg dry)		214	209	242		262
	Strontium (mg/kg dry)		64.3	59.4	57.4		50.9
	Sulfur (mg/kg dry)		< 1000	< 1000	< 1000		< 1000
	Tellurium (mg/kg dry)		< 0.1	< 0.1	< 0.1		< 0.1
	Thallium (mg/kg dry)		0.2	0.2	0.1		0.2
	Thorium (mg/kg dry)		9.9	10.4	6.3		7.0
	Tin (mg/kg dry)		0.5	0.5	0.3		0.6
	Titanium (mg/kg dry)		796	679	800		999
	Uranium (mg/kg dry)		7.4	6.0	4.6		7.9
	Vanadium (mg/kg dry)		47.5	41.7	36.5		55.5
	Zinc (mg/kg dry)		72	72	65		79
	Zirconium (mg/kg dry)		2	2	4		2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-31	5080309-33	5080309-34	5080309-35	5080309-36	5080309-37
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-28-15	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**
		AQ11-2	**AQ11-4**	**AQ10-1**	**AQ10-2**	**AQ10-3**	**AQ10-3R**
General Parameters	Carbon, Total Organic (% dry)	3.25		3.48	4.61	4.35	3.81
	Moisture (% wet)	36.3		55.1	42.6	50.7	44.2
	pH (1:2 H2O Solution) (pH units)	6.4		5.8	6.5	6.3	6.1
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)	2140		2210	1930	1790	1640
	Magnesium, Available (mg/kg dry)	336		364	321	279	275
	Potassium, Available (mg/kg dry)	96		157	83	100	91
	Sodium, Available (mg/kg dry)	29		26	21	20	19
	Ammonia as N, Available (mg/kg dry)	12.0		11.0	11.0	11.0	11.0
	Nitrate as N, Available (mg/kg dry)	2.2		3.2	2.3	2.8	3.0
	Phosphorus, Available (mg/kg dry)	5		< 2	4	4	8
Particle Size Distribution	> 80 mm (%)		< 0.1				
	> 56 mm (%)		< 0.1				
	> 40 mm (%)		< 0.1				
	> 25 mm (%)		< 0.1				
	> 19 mm (%)		< 0.1				
	> 12.5 mm (%)		< 0.1				
	> 4.75 mm (%)		2.4				
	> 2.36 mm (%)		5.8				
	> 2.0 mm (%)		2.7				
	> 1.18 mm (%)		8.3				
	> 600 µm (%)		10.6				
	> 425 µm (%)		11.2				
	> 300 µm (%)		20.8				
	> 150 µm (%)		23.7				
	> 75 µm (%)		9.4				
	< 75 µm (%)		5.0				
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	15400		18700	16700	16100	14700
	Antimony (mg/kg dry)	0.6		0.7	0.6	0.6	0.6
	Arsenic (mg/kg dry)	11.1		14.4	10.7	11.6	8.9
	Barium (mg/kg dry)	151		180	169	164	149
	Beryllium (mg/kg dry)	0.4		0.6	0.4	0.4	0.3
	Bismuth (mg/kg dry)	0.2		0.2	0.2	0.2	0.2
	Boron (mg/kg dry)	2		2	2	2	< 2
	Cadmium (mg/kg dry)	0.29		0.30	0.29	0.27	0.21
	Calcium (mg/kg dry)	6920		8530	7700	7530	6340
	Chromium (mg/kg dry)	30.1		35.8	31.7	31.9	29.1
	Cobalt (mg/kg dry)	10.2		12.6	11.0	10.9	9.5
	Copper (mg/kg dry)	15.0		19.3	15.8	15.9	14.0
	Iron (mg/kg dry)	23000		27200	24800	23900	21500
	Lead (mg/kg dry)	9.1		10.9	9.8	10.0	9.0
	Lithium (mg/kg dry)	14.7		17.3	14.9	14.4	12.5
	Magnesium (mg/kg dry)	5850		6910	6300	5970	5710
	Manganese (mg/kg dry)	478		870	693	605	479
	Mercury (mg/kg dry)	0.05		0.08	0.06	0.06	< 0.05

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-31	5080309-33	5080309-34	5080309-35	5080309-36	5080309-37
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-28-15	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**
		AQ11-2	**AQ11-4**	**AQ10-1**	**AQ10-2**	**AQ10-3**	**AQ10-3R**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	0.6		0.9	0.7	0.7	0.6
	Nickel (mg/kg dry)	20.3		24.4	21.0	21.0	18.9
	Phosphorus (mg/kg dry)	676		662	670	700	650
	Potassium (mg/kg dry)	1090		1200	1150	1050	942
	Selenium (mg/kg dry)	0.8		0.7	0.8	0.7	0.8
	Silicon (mg/kg dry)	< 3000		< 3000	< 3000	< 3000	< 3000
	Silver (mg/kg dry)	< 0.2		< 0.2	< 0.2	< 0.2	< 0.2
	Sodium (mg/kg dry)	251		279	281	279	254
	Strontium (mg/kg dry)	38.3		46.3	40.0	40.4	34.0
	Sulfur (mg/kg dry)	< 1000		< 1000	< 1000	< 1000	< 1000
	Tellurium (mg/kg dry)	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
	Thallium (mg/kg dry)	0.2		0.2	0.2	0.2	0.1
	Thorium (mg/kg dry)	6.9		7.8	6.9	7.3	6.2
	Tin (mg/kg dry)	0.5		0.6	0.5	0.5	0.5
	Titanium (mg/kg dry)	1060		1050	1090	1090	1040
	Uranium (mg/kg dry)	6.1		8.0	4.9	5.4	3.7
	Vanadium (mg/kg dry)	49.1		54.7	50.7	51.8	46.1
	Zinc (mg/kg dry)	72		80	75	73	68
	Zirconium (mg/kg dry)	2		3	2	2	2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-38	5080309-39	5080309-40	5080309-41	5080309-42	5080309-43
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-28-15	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**
		AQ10-4	**AQ04-1**	**AQ04-2**	**AQ04-3**	**AQ04-3R**	**AQ04-4**
General Parameters	Carbon, Total Organic (% dry)		5.34	5.44	5.43	5.26	
	Moisture (% wet)		24.7	53.1	36.6	49	
	pH (1:2 H2O Solution) (pH units)		6.9	7.1	6.7	6.8	
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)		1450	2600	2210	2140	
	Magnesium, Available (mg/kg dry)		235	380	364	314	
	Potassium, Available (mg/kg dry)		54	98	80	63	
	Sodium, Available (mg/kg dry)		14	40	20	19	
	Ammonia as N, Available (mg/kg dry)		6.7	12.0	9.3	11.0	
	Nitrate as N, Available (mg/kg dry)		< 1.0	1.9	1.6	1.3	
	Phosphorus, Available (mg/kg dry)		4	6	5	2	
Particle Size Distribution	> 80 mm (%)	< 0.1					< 0.1
	> 56 mm (%)	< 0.1					< 0.1
	> 40 mm (%)	< 0.1					< 0.1
	> 25 mm (%)	< 0.1					< 0.1
	> 19 mm (%)	< 0.1					< 0.1
	> 12.5 mm (%)	< 0.1					< 0.1
	> 4.75 mm (%)	7.2					0.9
	> 2.36 mm (%)	3.3					3.7
	> 2.0 mm (%)	1.4					1.7
	> 1.18 mm (%)	5.8					8.3
	> 600 µm (%)	10.1					19.8
	> 425 µm (%)	7.4					18.5
	> 300 µm (%)	10.1					22.8
	> 150 µm (%)	24.7					17.5
	> 75 µm (%)	16.6					4.8
	< 75 µm (%)	13.3					2.0
Strong Acid Leachable Metals	Aluminum (mg/kg dry)		14800	15800	18200	17500	
	Antimony (mg/kg dry)		0.4	0.5	0.6	0.6	
	Arsenic (mg/kg dry)		4.4	10.9	11.7	10.6	
	Barium (mg/kg dry)		120	162	184	170	
	Beryllium (mg/kg dry)		0.3	0.6	0.6	0.5	
	Bismuth (mg/kg dry)		0.2	0.1	0.2	0.2	
	Boron (mg/kg dry)		< 2	2	2	2	
	Cadmium (mg/kg dry)		0.09	0.30	0.29	0.28	
	Calcium (mg/kg dry)		6050	7200	7490	7230	
	Chromium (mg/kg dry)		26.1	26.3	32.9	30.9	
	Cobalt (mg/kg dry)		7.4	9.6	10.9	10.4	
	Copper (mg/kg dry)		13.7	15.6	17.7	15.4	
	Iron (mg/kg dry)		21600	21900	25400	23500	
	Lead (mg/kg dry)		7.9	10.8	11.4	11.2	
	Lithium (mg/kg dry)		12.5	13.8	15.9	15.8	
	Magnesium (mg/kg dry)		5810	5050	6450	5930	
	Manganese (mg/kg dry)		323	738	726	548	
	Mercury (mg/kg dry)		0.05	0.10	0.09	0.09	

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WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-38	5080309-39	5080309-40	5080309-41	5080309-42	5080309-43
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-28-15	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**	**Jul-29-15**
		AQ10-4	**AQ04-1**	**AQ04-2**	**AQ04-3**	**AQ04-3R**	**AQ04-4**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)		0.5	0.6	0.7	0.6	
	Nickel (mg/kg dry)		15.6	17.4	21.9	20.3	
	Phosphorus (mg/kg dry)		541	518	573	532	
	Potassium (mg/kg dry)		846	870	1140	1020	
	Selenium (mg/kg dry)		1.7	2.0	2.0	1.9	
	Silicon (mg/kg dry)		< 3000	< 3000	< 3000	< 3000	
	Silver (mg/kg dry)		< 0.2	< 0.2	< 0.2	< 0.2	
	Sodium (mg/kg dry)		261	179	242	237	
	Strontium (mg/kg dry)		45.7	64.1	62.1	60.6	
	Sulfur (mg/kg dry)		< 1000	< 1000	< 1000	< 1000	
	Tellurium (mg/kg dry)		< 0.1	< 0.1	< 0.1	< 0.1	
	Thallium (mg/kg dry)		0.1	0.1	0.2	0.2	
	Thorium (mg/kg dry)		8.6	9.7	10.8	10.5	
	Tin (mg/kg dry)		0.6	0.6	0.6	0.6	
	Titanium (mg/kg dry)		1040	804	952	922	
	Uranium (mg/kg dry)		11.2	9.2	12.6	12.1	
	Vanadium (mg/kg dry)		46.1	41.9	50.0	44.6	
	Zinc (mg/kg dry)		52	73	74	74	
	Zirconium (mg/kg dry)		3	3	2	2	

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WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-44	5080309-45	5080309-46	5080309-47	5080309-48	5080309-49
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-30-15	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**
		AQ13-1	**AQ13-2**	**AQ13-3**	**AQ13-3R**	**AQ13-4**	**AQ20-1**
General Parameters	Carbon, Total Organic (% dry)	5.32	4.76	4.43	2.73		9.05
	Moisture (% wet)	48	48.4	62.1	39.7		47.4
	pH (1:2 H2O Solution) (pH units)	4.4	6.6	5.8	5.5		6.7
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)	1000	2640	2700	2400		3300
	Magnesium, Available (mg/kg dry)	143	207	210	210		480
	Potassium, Available (mg/kg dry)	69	100	92	108		100
	Sodium, Available (mg/kg dry)	16	34	28	24		38
	Ammonia as N, Available (mg/kg dry)	11.0	12.0	10.0	5.3		8.0
	Nitrate as N, Available (mg/kg dry)	< 1.0	2.0	3.4	1.8		3.2
	Phosphorus, Available (mg/kg dry)	< 2	2	2	5		9
Particle Size Distribution	> 80 mm (%)					< 0.1	
	> 56 mm (%)					< 0.1	
	> 40 mm (%)					< 0.1	
	> 25 mm (%)					< 0.1	
	> 19 mm (%)					< 0.1	
	> 12.5 mm (%)					< 0.1	
	> 4.75 mm (%)					2.1	
	> 2.36 mm (%)					3.5	
	> 2.0 mm (%)					1.5	
	> 1.18 mm (%)					5.2	
	> 600 µm (%)					10.8	
	> 425 µm (%)					8.9	
	> 300 µm (%)					11.4	
	> 150 µm (%)					22.6	
	> 75 µm (%)					18.1	
	< 75 µm (%)					15.8	
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	19100	22500	17900	17200		14000
	Antimony (mg/kg dry)	0.5	0.8	0.5	0.5		0.9
	Arsenic (mg/kg dry)	19.1	37.7	22.5	20.2		13.8
	Barium (mg/kg dry)	111	185	137	132		167
	Beryllium (mg/kg dry)	0.6	0.8	0.6	0.5		0.5
	Bismuth (mg/kg dry)	0.2	0.2	0.3	0.2		0.1
	Boron (mg/kg dry)	< 2	< 2	< 2	< 2		2
	Cadmium (mg/kg dry)	0.08	0.30	0.13	0.10		0.18
	Calcium (mg/kg dry)	3840	9010	7090	6060		8330
	Chromium (mg/kg dry)	54.6	62.3	48.4	48.9		32.2
	Cobalt (mg/kg dry)	10.2	14.8	10.0	9.6		9.3
	Copper (mg/kg dry)	16.5	25.5	17.8	17.2		16.1
	Iron (mg/kg dry)	25300	28800	23300	23300		20500
	Lead (mg/kg dry)	9.3	8.8	8.2	7.7		7.0
	Lithium (mg/kg dry)	12.8	17.4	12.4	12.2		12.5
	Magnesium (mg/kg dry)	7960	8650	7120	7220		5980
	Manganese (mg/kg dry)	387	901	635	413		578
	Mercury (mg/kg dry)	0.06	0.08	0.06	< 0.05		0.07

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WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-44	5080309-45	5080309-46	5080309-47	5080309-48	5080309-49
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-30-15	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**
		AQ13-1	**AQ13-2**	**AQ13-3**	**AQ13-3R**	**AQ13-4**	**AQ20-1**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	1.5	0.6	0.6	0.6		0.5
	Nickel (mg/kg dry)	29.1	38.8	28.2	27.6		21.1
	Phosphorus (mg/kg dry)	480	547	469	526		634
	Potassium (mg/kg dry)	1760	2310	1710	1950		1120
	Selenium (mg/kg dry)	1.5	1.5	2.4	0.9		1.6
	Silicon (mg/kg dry)	< 3000	< 3000	< 3000	< 3000		< 3000
	Silver (mg/kg dry)	< 0.2	< 0.2	< 0.2	< 0.2		< 0.2
	Sodium (mg/kg dry)	236	283	240	263		204
	Strontium (mg/kg dry)	30.3	62.1	45.7	41.1		72.2
	Sulfur (mg/kg dry)	< 1000	< 1000	< 1000	< 1000		< 1000
	Tellurium (mg/kg dry)	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1
	Thallium (mg/kg dry)	0.3	0.4	0.2	0.2		0.1
	Thorium (mg/kg dry)	7.9	11.2	9.6	9.6		7.3
	Tin (mg/kg dry)	1.0	1.0	0.9	0.9		0.6
	Titanium (mg/kg dry)	1180	1170	1060	1160		792
	Uranium (mg/kg dry)	2.9	10.0	4.4	2.8		17.1
	Vanadium (mg/kg dry)	64.2	51.8	43.9	45.7		39.1
	Zinc (mg/kg dry)	60	75	57	55		64
	Zirconium (mg/kg dry)	< 2	2	< 2	< 2		2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-50	5080309-51	5080309-52	5080309-53	5080309-54	5080309-55
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-30-15	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-31-15**	**Jul-31-15**
		AQ20-2	**AQ20-3**	**AQ20-3R**	**AQ20-4**	**AQREF2-1**	**AQREF2-2**
General Parameters	Carbon, Total Organic (% dry)	5.91	10.5	10.6		3.92	2.98
	Moisture (% wet)	46	48.7	43		31.7	41.9
	pH (1:2 H2O Solution) (pH units)	7.1	7.0	7.0		7.1	6.7
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)	3350	3570	3790		1800	2070
	Magnesium, Available (mg/kg dry)	480	514	486		540	729
	Potassium, Available (mg/kg dry)	101	99	81		62	64
	Sodium, Available (mg/kg dry)	16	21	21		30	30
	Ammonia as N, Available (mg/kg dry)	8.0	8.0	10.0		5.3	5.3
	Nitrate as N, Available (mg/kg dry)	1.9	2.2	3.5		< 1.0	1.5
	Phosphorus, Available (mg/kg dry)	< 2	2	3		4	< 2
Particle Size Distribution	> 80 mm (%)				< 0.1		
	> 56 mm (%)				< 0.1		
	> 40 mm (%)				< 0.1		
	> 25 mm (%)				< 0.1		
	> 19 mm (%)				< 0.1		
	> 12.5 mm (%)				< 0.1		
	> 4.75 mm (%)				1.0		
	> 2.36 mm (%)				3.0		
	> 2.0 mm (%)				1.3		
	> 1.18 mm (%)				5.5		
	> 600 µm (%)				10.6		
	> 425 µm (%)				6.6		
	> 300 µm (%)				7.6		
	> 150 µm (%)				17.4		
	> 75 µm (%)				17.3		
	< 75 µm (%)				29.8		
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	16200	14900	15800		13200	12600
	Antimony (mg/kg dry)	0.9	0.9	1.1		0.4	0.3
	Arsenic (mg/kg dry)	15.0	14.0	12.7		5.9	6.4
	Barium (mg/kg dry)	193	179	191		196	158
	Beryllium (mg/kg dry)	0.6	0.5	0.6		0.4	0.5
	Bismuth (mg/kg dry)	0.1	0.1	0.2		< 0.1	< 0.1
	Boron (mg/kg dry)	2	2	3		3	3
	Cadmium (mg/kg dry)	0.18	0.17	0.15		0.21	0.16
	Calcium (mg/kg dry)	9460	9550	10600		8390	7610
	Chromium (mg/kg dry)	36.1	34.0	36.5		33.9	36.1
	Cobalt (mg/kg dry)	10.2	9.0	7.9		10.0	8.8
	Copper (mg/kg dry)	19.6	19.1	24.1		24.4	19.1
	Iron (mg/kg dry)	23400	21200	20100		23200	22300
	Lead (mg/kg dry)	7.6	7.3	7.5		5.5	5.5
	Lithium (mg/kg dry)	15.1	13.7	15.8		11.1	11.3
	Magnesium (mg/kg dry)	6450	6280	6440		7350	7010
	Manganese (mg/kg dry)	613	433	238		515	226
	Mercury (mg/kg dry)	0.06	0.06	0.08		< 0.05	< 0.05

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-50	5080309-51	5080309-52	5080309-53	5080309-54	5080309-55
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-30-15	**Jul-30-15**	**Jul-30-15**	**Jul-30-15**	**Jul-31-15**	**Jul-31-15**
		AQ20-2	**AQ20-3**	**AQ20-3R**	**AQ20-4**	**AQREF2-1**	**AQREF2-2**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	0.5	0.6	0.5		0.5	0.5
	Nickel (mg/kg dry)	24.6	22.6	24.2		34.3	33.1
	Phosphorus (mg/kg dry)	725	667	680		711	729
	Potassium (mg/kg dry)	1330	1220	1110		889	738
	Selenium (mg/kg dry)	1.7	1.2	< 0.5		< 0.5	< 0.5
	Silicon (mg/kg dry)	< 3000	< 3000	< 3000		< 3000	< 3000
	Silver (mg/kg dry)	< 0.2	< 0.2	< 0.2		< 0.2	< 0.2
	Sodium (mg/kg dry)	223	210	198		390	360
	Strontium (mg/kg dry)	80.8	82.3	93.2		60.5	58.0
	Sulfur (mg/kg dry)	< 1000	< 1000	< 1000		< 1000	< 1000
	Tellurium (mg/kg dry)	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
	Thallium (mg/kg dry)	0.2	0.1	0.2		< 0.1	< 0.1
	Thorium (mg/kg dry)	9.1	8.4	8.8		3.5	3.6
	Tin (mg/kg dry)	0.6	0.6	0.6		0.4	0.4
	Titanium (mg/kg dry)	912	763	742		860	821
	Uranium (mg/kg dry)	17.6	27.9	28.9		1.3	2.1
	Vanadium (mg/kg dry)	45.3	39.8	35.2		47.9	50.4
	Zinc (mg/kg dry)	61	57	54		64	62
	Zirconium (mg/kg dry)	3	3	3		4	3

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-56	5080309-57	5080309-58	5080309-59	5080309-60	5080309-61
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-31-15	**Jul-31-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**
		AQREF2-3	**AQREF2-4**	**AQ04.5-1**	**AQ04.5-2**	**AQ04.5-3**	**AQ04.5-4**
General Parameters	Carbon, Total Organic (% dry)	4.34		6.49	12.2	6.85	8.16
	Moisture (% wet)	36.1		50.8	58.8	56.1	58.7
	pH (1:2 H2O Solution) (pH units)	6.7		5.8	5.7	5.9	5.7
Fertility / Nutrient Parameters	Calcium, Available (mg/kg dry)	2140		1500	2210	1570	1820
	Magnesium, Available (mg/kg dry)	1010		264	364	250	271
	Potassium, Available (mg/kg dry)	73		129	150	171	146
	Sodium, Available (mg/kg dry)	57		19	19	19	16
	Ammonia as N, Available (mg/kg dry)	5.3		8.0	12.0	12.0	9.3
	Nitrate as N, Available (mg/kg dry)	1.2		2.9	3.5	3.7	2.7
	Phosphorus, Available (mg/kg dry)	< 2		2	< 2	3	4
Particle Size Distribution	> 80 mm (%)		< 0.1				
	> 56 mm (%)		< 0.1				
	> 40 mm (%)		< 0.1				
	> 25 mm (%)		< 0.1				
	> 19 mm (%)		< 0.1				
	> 12.5 mm (%)		< 0.1				
	> 4.75 mm (%)		0.9				
	> 2.36 mm (%)		3.3				
	> 2.0 mm (%)		1.8				
	> 1.18 mm (%)		7.0				
	> 600 µm (%)		13.0				
	> 425 µm (%)		26.6				
	> 300 µm (%)		29.2				
	> 150 µm (%)		12.7				
	> 75 µm (%)		3.2				
	< 75 µm (%)		2.2				
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	13800		14300	17200	15500	16400
	Antimony (mg/kg dry)	0.3		0.5	0.7	0.6	0.6
	Arsenic (mg/kg dry)	7.4		10.2	21.7	12.9	13.8
	Barium (mg/kg dry)	151		138	188	152	172
	Beryllium (mg/kg dry)	0.5		0.4	0.6	0.5	0.4
	Bismuth (mg/kg dry)	< 0.1		0.1	0.2	0.1	0.1
	Boron (mg/kg dry)	4		< 2	< 2	< 2	< 2
	Cadmium (mg/kg dry)	0.13		0.28	0.61	0.36	0.49
	Calcium (mg/kg dry)	7840		4390	5360	4980	5180
	Chromium (mg/kg dry)	43.4		24.5	27.8	25.8	27.3
	Cobalt (mg/kg dry)	9.4		8.1	15.2	9.1	12.8
	Copper (mg/kg dry)	21.7		10.8	15.2	12.2	13.2
	Iron (mg/kg dry)	26900		20500	27400	22700	23600
	Lead (mg/kg dry)	6.3		9.9	13.0	10.9	11.9
	Lithium (mg/kg dry)	11.8		10.9	13.4	11.9	12.2
	Magnesium (mg/kg dry)	9690		4570	4990	4880	5000
	Manganese (mg/kg dry)	207		933	2050	1110	1680
	Mercury (mg/kg dry)	< 0.05		0.08	0.13	0.11	0.12

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-56	5080309-57	5080309-58	5080309-59	5080309-60	5080309-61
		Soil	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
		Jul-31-15	**Jul-31-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**	**Aug-01-15**
		AQREF2-3	**AQREF2-4**	**AQ04.5-1**	**AQ04.5-2**	**AQ04.5-3**	**AQ04.5-4**
Strong Acid Leachable Metals	Molybdenum (mg/kg dry)	0.6		0.5	1.3	0.7	0.8
	Nickel (mg/kg dry)	42.1		14.5	17.7	15.6	17.1
	Phosphorus (mg/kg dry)	805		509	569	528	577
	Potassium (mg/kg dry)	833		651	780	741	739
	Selenium (mg/kg dry)	< 0.5		0.7	< 0.5	< 0.5	0.6
	Silicon (mg/kg dry)	< 3000		< 3000	< 3000	< 3000	< 3000
	Silver (mg/kg dry)	< 0.2		< 0.2	< 0.2	< 0.2	< 0.2
	Sodium (mg/kg dry)	490		180	173	187	180
	Strontium (mg/kg dry)	52.9		31.3	41.2	36.3	39.4
	Sulfur (mg/kg dry)	< 1000		< 1000	< 1000	< 1000	< 1000
	Tellurium (mg/kg dry)	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
	Thallium (mg/kg dry)	< 0.1		0.1	0.2	0.2	0.2
	Thorium (mg/kg dry)	3.8		9.0	10.8	9.5	9.5
	Tin (mg/kg dry)	0.6		0.5	0.6	0.6	0.6
	Titanium (mg/kg dry)	960		832	734	826	759
	Uranium (mg/kg dry)	1.4		5.5	9.3	7.0	6.1
	Vanadium (mg/kg dry)	57.3		42.7	57.0	46.4	48.1
	Zinc (mg/kg dry)	60		63	77	68	69
	Zirconium (mg/kg dry)	4		< 2	< 2	< 2	< 2

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-62	5080309-63	5080309-64	5080309-65	5080309-66	5080309-67
		Tissue (wet)	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Aug-01-15	**Jul-25-15**	**Jul-25-15**	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**
		219	**041**	**042**	**052**	**054**	**69**
General Parameters	Moisture (% wet)		77.6	71.2	78.7	79	78.2
Metals in Tissue	Aluminum (mg/kg wet)	30.6	0.9	49.7	5.3	1.2	2.2
	Antimony (mg/kg wet)	0.068	0.080	0.019	0.034	0.012	0.007
	Arsenic (mg/kg wet)	0.149	0.069	0.216	0.068	0.020	0.034
	Barium (mg/kg wet)	2.10	0.10	3.24	0.18	0.07	0.11
	Beryllium (mg/kg wet)	< 0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Bismuth (mg/kg wet)	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Boron (mg/kg wet)	0.3	0.3	0.3	0.3	0.3	0.3
	Cadmium (mg/kg wet)	0.059	0.004	0.111	0.003	0.003	0.005
	Calcium (mg/kg wet)	8010	656	12300	506	287	584
	Chromium (mg/kg wet)	0.08	0.04	0.22	0.03	< 0.01	0.01
	Cobalt (mg/kg wet)	0.055	0.019	0.089	0.015	0.009	0.011
	Copper (mg/kg wet)	1.21	0.39	1.55	0.30	0.34	0.64
	Iron (mg/kg wet)	45	5	85	10	4	10
	Lead (mg/kg wet)	0.022	< 0.004	0.020	0.007	< 0.004	< 0.004
	Magnesium (mg/kg wet)	415	319	525	284	296	304
	Manganese (mg/kg wet)	7.08	0.53	16.2	0.74	0.25	0.33
	Mercury (mg/kg wet)	0.047	0.065	0.084	0.090	0.050	0.072
	Molybdenum (mg/kg wet)	< 0.02	< 0.01	0.03	< 0.01	< 0.01	< 0.01
	Nickel (mg/kg wet)	0.10	0.03	0.24	0.06	0.05	0.05
	Phosphorus (mg/kg wet)	7690	3840	13700	3330	3300	3890
	Potassium (mg/kg wet)	3960	5560	4500	5110	5310	5750
	Selenium (mg/kg wet)	1.88	1.69	2.74	1.18	1.29	1.73
	Silver (mg/kg wet)	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Sodium (mg/kg wet)	785	305	1070	300	293	353
	Strontium (mg/kg wet)	11.0	0.95	26.0	0.63	0.34	0.64
	Thallium (mg/kg wet)	0.010	0.006	0.010	0.006	0.005	0.008
	Tin (mg/kg wet)	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Titanium (mg/kg wet)	2.56	0.26	4.41	0.41	0.23	0.34
	Uranium (mg/kg wet)	0.029	< 0.001	0.011	0.003	< 0.001	0.001
	Vanadium (mg/kg wet)	0.22	< 0.02	0.47	0.03	< 0.02	< 0.02
	Zinc (mg/kg wet)	29.8	5.2	61.4	4.0	5.8	5.2

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PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-68	5080309-69	5080309-70	5080309-71	5080309-72	5080309-73
		Tissue (wet)	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Jul-26-15	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Jul-26-15**	**Jul-27-15**
		70	**71**	**72**	**73**	**74**	**94**
General Parameters	Moisture (% wet)	78	77.3	78.8	78.8	78.7	73.8
Metals in Tissue	Aluminum (mg/kg wet)	1.3	3.1	2.1	2.1	2.7	112
	Antimony (mg/kg wet)	0.005	0.060	0.006	0.053	0.004	0.017
	Arsenic (mg/kg wet)	0.032	0.029	0.028	0.029	0.022	0.164
	Barium (mg/kg wet)	0.10	0.05	0.10	0.12	0.15	3.54
	Beryllium (mg/kg wet)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002
	Bismuth (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Boron (mg/kg wet)	0.3	0.3	0.3	0.4	0.4	0.4
	Cadmium (mg/kg wet)	0.003	0.005	0.007	0.006	0.005	0.057
	Calcium (mg/kg wet)	499	162	508	406	559	7410
	Chromium (mg/kg wet)	< 0.01	0.01	0.04	0.01	0.02	0.30
	Cobalt (mg/kg wet)	0.009	0.014	0.016	0.011	0.009	0.105
	Copper (mg/kg wet)	0.42	0.43	0.40	0.71	0.38	1.26
	Iron (mg/kg wet)	10	10	8	10	9	154
	Lead (mg/kg wet)	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.036
	Magnesium (mg/kg wet)	322	308	350	304	312	412
	Manganese (mg/kg wet)	0.45	0.33	0.48	0.33	0.41	14.6
	Mercury (mg/kg wet)	0.062	0.054	0.039	0.055	0.092	0.248
	Molybdenum (mg/kg wet)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04
	Nickel (mg/kg wet)	0.05	0.05	0.06	0.06	0.06	0.22
	Phosphorus (mg/kg wet)	3840	3650	3980	3830	3830	8450
	Potassium (mg/kg wet)	5790	5880	5920	5780	5730	4030
	Selenium (mg/kg wet)	1.56	1.31	1.79	1.71	1.42	1.76
	Silver (mg/kg wet)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Sodium (mg/kg wet)	384	381	446	364	372	1050
	Strontium (mg/kg wet)	0.70	0.18	0.60	0.47	0.76	11.3
	Thallium (mg/kg wet)	0.004	0.006	0.005	0.006	0.004	0.015
	Tin (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Titanium (mg/kg wet)	0.27	0.46	0.35	0.29	0.37	7.97
	Uranium (mg/kg wet)	< 0.001	0.001	0.002	0.001	0.001	0.129
	Vanadium (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.43
	Zinc (mg/kg wet)	4.6	7.3	5.5	6.5	5.3	51.6

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-74	5080309-75	5080309-76	5080309-77	5080309-78	5080309-79
		Tissue (wet)	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Jul-27-15	**Jul-27-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**
		96	**102**	**107**	**108**	**109**	**110**
General Parameters	Moisture (% wet)			78.1	79	78.5	79.7
Metals in Tissue	Aluminum (mg/kg wet)	2.7	37.6	0.7	1.2	1.0	2.0
	Antimony (mg/kg wet)	0.003	0.012	0.005	< 0.002	< 0.002	0.006
	Arsenic (mg/kg wet)	0.073	0.118	0.043	0.046	0.035	0.032
	Barium (mg/kg wet)	1.51	3.01	0.18	0.25	0.06	0.14
	Beryllium (mg/kg wet)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Bismuth (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Boron (mg/kg wet)	0.4	0.3	0.3	0.3	0.3	0.4
	Cadmium (mg/kg wet)	0.013	0.038	0.003	0.004	0.006	0.008
	Calcium (mg/kg wet)	6320	8670	705	1550	218	828
	Chromium (mg/kg wet)	< 0.01	0.10	< 0.01	< 0.01	< 0.01	0.01
	Cobalt (mg/kg wet)	0.016	0.054	0.008	0.013	0.013	0.013
	Copper (mg/kg wet)	0.69	0.97	0.38	0.36	0.32	0.39
	Iron (mg/kg wet)	12	58	5	6	5	6
	Lead (mg/kg wet)	< 0.004	0.014	< 0.004	< 0.004	< 0.004	< 0.004
	Magnesium (mg/kg wet)	362	409	300	318	279	330
	Manganese (mg/kg wet)	2.89	7.99	0.39	0.70	0.32	0.43
	Mercury (mg/kg wet)	0.130	0.220	0.075	0.051	0.086	0.037
	Molybdenum (mg/kg wet)	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
	Nickel (mg/kg wet)	0.08	0.13	0.06	0.07	0.06	0.07
	Phosphorus (mg/kg wet)	7430	8460	3750	4280	3100	4010
	Potassium (mg/kg wet)	4010	3930	5550	5500	5040	5660
	Selenium (mg/kg wet)	1.56	1.39	1.23	1.51	1.54	1.82
	Silver (mg/kg wet)	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
	Sodium (mg/kg wet)	817	899	310	326	295	315
	Strontium (mg/kg wet)	10.0	12.9	0.84	1.90	0.27	0.91
	Thallium (mg/kg wet)	0.009	0.011	0.006	0.006	0.006	0.005
	Tin (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Titanium (mg/kg wet)	0.71	2.94	0.25	0.32	0.22	0.34
	Uranium (mg/kg wet)	0.032	0.081	0.001	0.001	0.001	0.001
	Vanadium (mg/kg wet)	0.05	0.21	< 0.02	< 0.02	< 0.02	< 0.02
	Zinc (mg/kg wet)	21.1	36.0	5.3	6.0	6.0	5.8

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5080309
REPORTED Nov-30-15

		5080309-80	5080309-81	5080309-82	5080309-83	5080309-84	5080309-85
		Tissue (wet)	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Jul-28-15	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**	**Jul-28-15**
		111	**112**	**113**	**205**	**206**	**207**
General Parameters	Moisture (% wet)	78.8	79.7	79.5			
Metals in Tissue	Aluminum (mg/kg wet)	1.2	1.7	7.0	32.5	19.4	3.6
	Antimony (mg/kg wet)	< 0.002	0.003	0.007	0.023	0.036	< 0.009
	Arsenic (mg/kg wet)	0.035	0.031	0.038	0.157	0.396	0.097
	Barium (mg/kg wet)	0.05	0.15	0.18	3.70	3.71	2.64
	Beryllium (mg/kg wet)	< 0.002	< 0.002	< 0.002	< 0.008	< 0.011	< 0.009
	Bismuth (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.08	< 0.11	< 0.09
	Boron (mg/kg wet)	0.3	0.3	0.3	0.5	< 0.5	< 0.5
	Cadmium (mg/kg wet)	0.004	0.005	0.008	0.087	0.151	0.141
	Calcium (mg/kg wet)	316	687	725	9010	12800	8080
	Chromium (mg/kg wet)	< 0.01	0.02	0.03	0.13	0.17	< 0.05
	Cobalt (mg/kg wet)	0.012	0.011	0.031	0.038	0.053	0.024
	Copper (mg/kg wet)	0.30	0.28	0.34	0.73	0.73	0.53
	Iron (mg/kg wet)	4	5	14	57	104	10
	Lead (mg/kg wet)	< 0.004	< 0.004	0.006	0.024	0.088	< 0.018
	Magnesium (mg/kg wet)	303	330	331	417	455	385
	Manganese (mg/kg wet)	0.23	0.50	0.78	8.48	13.0	7.15
	Mercury (mg/kg wet)	0.042	0.037	0.036	0.065	0.051	0.031
	Molybdenum (mg/kg wet)	< 0.01	< 0.01	< 0.01	< 0.04	< 0.05	< 0.05
	Nickel (mg/kg wet)	0.06	0.06	0.06	0.25	0.35	0.25
	Phosphorus (mg/kg wet)	3430	3720	3720	7670	9340	6610
	Potassium (mg/kg wet)	5590	5730	5470	3750	3740	3770
	Selenium (mg/kg wet)	1.44	1.71	2.07	1.40	2.36	1.61
	Silver (mg/kg wet)	< 0.01	< 0.01	< 0.01	< 0.04	< 0.05	< 0.05
	Sodium (mg/kg wet)	301	328	356	754	738	686
	Strontium (mg/kg wet)	0.32	0.74	0.84	13.4	17.0	10.4
	Thallium (mg/kg wet)	0.005	0.004	0.007	0.007	0.009	0.006
	Tin (mg/kg wet)	< 0.02	< 0.02	< 0.02	< 0.08	< 0.1	< 0.09
	Titanium (mg/kg wet)	0.22	0.31	0.60	2.26	1.24	0.55
	Uranium (mg/kg wet)	< 0.001	0.001	0.003	0.016	0.021	0.006
	Vanadium (mg/kg wet)	< 0.02	< 0.02	0.02	0.27	0.42	0.15
	Zinc (mg/kg wet)	5.3	6.3	6.3	38.2	61.3	33.5

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5080309
PROJECT	Coffee Gold	**REPORTED**	Nov-30-15

		5080309-86
		Tissue (wet)
		Jul-29-15
		208
Metals in Tissue	Aluminum (mg/kg wet)	28.3
	Antimony (mg/kg wet)	0.005
	Arsenic (mg/kg wet)	0.126
	Barium (mg/kg wet)	4.58
	Beryllium (mg/kg wet)	< 0.002
	Bismuth (mg/kg wet)	< 0.02
	Boron (mg/kg wet)	0.3
	Cadmium (mg/kg wet)	0.047
	Calcium (mg/kg wet)	16200
	Chromium (mg/kg wet)	0.08
	Cobalt (mg/kg wet)	0.047
	Copper (mg/kg wet)	1.12
	Iron (mg/kg wet)	48
	Lead (mg/kg wet)	0.016
	Magnesium (mg/kg wet)	440
	Manganese (mg/kg wet)	14.4
	Mercury (mg/kg wet)	0.203
	Molybdenum (mg/kg wet)	0.02
	Nickel (mg/kg wet)	0.15
	Phosphorus (mg/kg wet)	13000
	Potassium (mg/kg wet)	3780
	Selenium (mg/kg wet)	1.22
	Silver (mg/kg wet)	< 0.01
	Sodium (mg/kg wet)	1300
	Strontium (mg/kg wet)	24.6
	Thallium (mg/kg wet)	0.013
	Tin (mg/kg wet)	< 0.02
	Titanium (mg/kg wet)	2.51
	Uranium (mg/kg wet)	0.175
	Vanadium (mg/kg wet)	0.27
	Zinc (mg/kg wet)	71.7

CERTIFICATE OF ANALYSIS

REPORTED TO Palmer Environmental Consulting Group Inc.
470 Granville Street - Suite 630
Vancouver, BC V6C 1V5

TEL (604) 629-9075
FAX -

ATTENTION Alyssa Murdoch

WORK ORDER 5091469

PO NUMBER
PROJECT Coffee Gold
PROJECT INFO

RECEIVED / TEMP Sep-17-15 14:00 / 2°C
REPORTED Nov-20-15
COC NUMBER B31312

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Work Order Comments:

Please note this is an amended report - updated matrix description 11/18/15 KF
Nov.20/15- This is an amended report, results have been revised.- JLS

[signature redacted]

Authorized By: **Brent Coates, B.Sc.**
Division Manager, Richmond

If you have any questions or concerns, please contact your Account Manager:
Sara Gulenchyn, B.Sc, P.Chem. (sgulenchyn@caro.ca)

TABLE OF CONTENTS

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

ANALYSIS INFORMATION

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analysis Description	Method Reference	Technique	Location
Metals in Tissue	EPA 200.3 / EPA 6020A	HNO3+HCl+H2O2 Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Moisture	ASTM D2974-87*	Gravimetry (Dried at 105C)	N/A
Strong Acid Leachable Metals	BCMOE SALM V.2 / EPA 6020A	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
% wet	Percent (wet weight)
mg/kg dry	Milligrams per kilogram (dry weight)
mg/kg wet	Milligrams per kilogram (wet weight)

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ111-3 (5091469-01) [Soil] Sampled: Sep-15-15 08:40						
Strong Acid Leachable Metals						
Aluminum	**17200**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Antimony	**0.7**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Arsenic	**10.0**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Barium	**153**	1	mg/kg dry	Sep-23-15	Sep-24-15	
Beryllium	**0.5**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Boron	**2**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Cadmium	**0.21**	0.04	mg/kg dry	Sep-23-15	Sep-24-15	
Calcium	**6470**	100	mg/kg dry	Sep-23-15	Sep-24-15	
Chromium	**30.6**	1.0	mg/kg dry	Sep-23-15	Sep-24-15	
Cobalt	**9.7**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Copper	**15.9**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Iron	**23200**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Lead	**10.1**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Lithium	**16.3**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Magnesium	**5980**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Manganese	**352**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Mercury	**0.08**	0.05	mg/kg dry	Sep-23-15	Sep-24-15	
Molybdenum	**0.7**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Nickel	**20.5**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Phosphorus	**713**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Potassium	**1100**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Selenium	**0.5**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Silicon	< 3000	3000	mg/kg dry	Sep-23-15	Sep-24-15	
Silver	< 0.2	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sodium	**369**	40	mg/kg dry	Sep-23-15	Sep-24-15	
Strontium	**42.5**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sulfur	< 1000	1000	mg/kg dry	Sep-23-15	Sep-24-15	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thallium	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thorium	**8.8**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Tin	**0.7**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Titanium	**1080**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Uranium	**9.9**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Vanadium	**56.6**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Zinc	**69**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Zirconium	**4**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Sample ID: AQ00-2 (5091469-02) [Soil] Sampled: Sep-15-15 12:30						
Strong Acid Leachable Metals						
Aluminum	**19100**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Antimony	**0.6**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Arsenic	**9.9**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Barium	**214**	1	mg/kg dry	Sep-23-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQ00-2 (5091469-02) [Soil] Sampled: Sep-15-15 12:30, Continued						
Strong Acid Leachable Metals, Continued						
Beryllium	**0.5**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Boron	**2**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Cadmium	**0.27**	0.04	mg/kg dry	Sep-23-15	Sep-24-15	
Calcium	**7260**	100	mg/kg dry	Sep-23-15	Sep-24-15	
Chromium	**34.1**	1.0	mg/kg dry	Sep-23-15	Sep-24-15	
Cobalt	**10.4**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Copper	**23.5**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Iron	**25200**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Lead	**8.4**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Lithium	**16.7**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Magnesium	**6990**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Manganese	**402**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Mercury	**0.10**	0.05	mg/kg dry	Sep-23-15	Sep-24-15	
Molybdenum	**1.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Nickel	**23.3**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Phosphorus	**786**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Potassium	**1390**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Selenium	**0.6**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Silicon	< 3000	3000	mg/kg dry	Sep-23-15	Sep-24-15	
Silver	< 0.2	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sodium	**393**	40	mg/kg dry	Sep-23-15	Sep-24-15	
Strontium	**50.4**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sulfur	< 1000	1000	mg/kg dry	Sep-23-15	Sep-24-15	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thallium	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thorium	**9.2**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Tin	**0.6**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Titanium	**1020**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Uranium	**26.1**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Vanadium	**62.9**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Zinc	**73**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Zirconium	**4**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Sample ID: AQREF1-3R (5091469-03) [Soil] Sampled: Sep-15-15 13:45						
Strong Acid Leachable Metals						
Aluminum	**14500**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Antimony	**1.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Arsenic	**11.2**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Barium	**428**	1	mg/kg dry	Sep-23-15	Sep-24-15	
Beryllium	**0.4**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Bismuth	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Boron	**3**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Cadmium	**0.54**	0.04	mg/kg dry	Sep-23-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: AQREF1-3R (5091469-03) [Soil] Sampled: Sep-15-15 13:45, Continued						
Strong Acid Leachable Metals, Continued						
Calcium	**8230**	100	mg/kg dry	Sep-23-15	Sep-24-15	
Chromium	**30.3**	1.0	mg/kg dry	Sep-23-15	Sep-24-15	
Cobalt	**9.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Copper	**22.2**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Iron	**22600**	20	mg/kg dry	Sep-23-15	Sep-24-15	
Lead	**9.2**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Lithium	**11.9**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Magnesium	**6680**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Manganese	**375**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Mercury	**0.09**	0.05	mg/kg dry	Sep-23-15	Sep-24-15	
Molybdenum	**0.9**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Nickel	**22.4**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Phosphorus	**901**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Potassium	**1260**	10	mg/kg dry	Sep-23-15	Sep-24-15	
Selenium	**0.7**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Silicon	< 3000	3000	mg/kg dry	Sep-23-15	Sep-24-15	
Silver	< 0.2	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sodium	**329**	40	mg/kg dry	Sep-23-15	Sep-24-15	
Strontium	**70.6**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Sulfur	< 1000	1000	mg/kg dry	Sep-23-15	Sep-24-15	
Tellurium	< 0.1	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thallium	**0.2**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Thorium	**7.0**	0.5	mg/kg dry	Sep-23-15	Sep-24-15	
Tin	**0.7**	0.2	mg/kg dry	Sep-23-15	Sep-24-15	
Titanium	**779**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Uranium	**6.3**	0.1	mg/kg dry	Sep-23-15	Sep-24-15	
Vanadium	**55.0**	0.4	mg/kg dry	Sep-23-15	Sep-24-15	
Zinc	**84**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Zirconium	**3**	2	mg/kg dry	Sep-23-15	Sep-24-15	
Sample ID: 002 (5091469-04) [Tissue (wet)] Sampled: Sep-11-15						
General Parameters						
Moisture	**79.4**	0.1	% wet	N/A	Sep-24-15	
Metals in Tissue						
Aluminum	**2.0**	0.4	mg/kg wet	Sep-22-15	Sep-24-15	
Antimony	**0.272**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Arsenic	**0.043**	0.005	mg/kg wet	Sep-22-15	Sep-24-15	
Barium	**0.17**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Beryllium	< 0.005	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Bismuth	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Boron	< 0.2	0.1	mg/kg wet	Sep-22-15	Sep-24-15	
Cadmium	< 0.005	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Calcium	**385**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Chromium	< 0.02	0.01	mg/kg wet	Sep-22-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 002 (5091469-04) [Tissue (wet)] Sampled: Sep-11-15, Continued						
Metals in Tissue, Continued						
Cobalt	**0.021**	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Copper	**0.39**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Iron	**7**	1	mg/kg wet	Sep-22-15	Sep-24-15	
Lead	< 0.010	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Magnesium	**305**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Manganese	**0.56**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Mercury	**0.068**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Molybdenum	< 0.02	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Nickel	**0.03**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Phosphorus	**3000**	5	mg/kg wet	Sep-22-15	Sep-24-15	
Potassium	**5200**	10	mg/kg wet	Sep-22-15	Sep-24-15	
Selenium	**0.90**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Silver	< 0.02	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Sodium	**280**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Strontium	**0.61**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Thallium	**0.006**	0.001	mg/kg wet	Sep-22-15	Sep-24-15	
Tin	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Titanium	**0.26**	0.05	mg/kg wet	Sep-22-15	Sep-24-15	
Uranium	< 0.002	0.001	mg/kg wet	Sep-22-15	Sep-24-15	
Vanadium	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Zinc	**5.7**	0.5	mg/kg wet	Sep-22-15	Sep-24-15	
Sample ID: 003 (5091469-05) [Tissue (wet)] Sampled: Sep-12-15						
General Parameters						
Moisture	**77.1**	0.1	% wet	N/A	Sep-24-15	
Metals in Tissue						
Aluminum	**31.8**	0.4	mg/kg wet	Sep-22-15	Sep-24-15	
Antimony	**0.182**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Arsenic	**0.119**	0.005	mg/kg wet	Sep-22-15	Sep-24-15	
Barium	**4.00**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Beryllium	< 0.005	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Bismuth	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Boron	< 0.2	0.1	mg/kg wet	Sep-22-15	Sep-24-15	
Cadmium	**0.045**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Calcium	**17700**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Chromium	**0.07**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Cobalt	**0.050**	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Copper	**1.01**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Iron	**69**	1	mg/kg wet	Sep-22-15	Sep-24-15	
Lead	**0.022**	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Magnesium	**546**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Manganese	**9.51**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Mercury	**0.213**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Molybdenum	**0.03**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 003 (5091469-05) [Tissue (wet)] Sampled: Sep-12-15, Continued						
Metals in Tissue, Continued						
Nickel	**0.08**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Phosphorus	**13400**	5	mg/kg wet	Sep-22-15	Sep-24-15	
Potassium	**4350**	10	mg/kg wet	Sep-22-15	Sep-24-15	
Selenium	**1.15**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Silver	< 0.02	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Sodium	**1450**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Strontium	**21.4**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Thallium	**0.011**	0.001	mg/kg wet	Sep-22-15	Sep-24-15	
Tin	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Titanium	**2.46**	0.05	mg/kg wet	Sep-22-15	Sep-24-15	
Uranium	**0.098**	0.001	mg/kg wet	Sep-22-15	Sep-24-15	
Vanadium	**0.42**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Zinc	**52.4**	0.5	mg/kg wet	Sep-22-15	Sep-24-15	
Sample ID: 004 (5091469-06) [Tissue (wet)] Sampled: Sep-15-15						
General Parameters						
Moisture	**71**	0.1	% wet	N/A	Sep-24-15	
Metals in Tissue						
Aluminum	**17.8**	0.4	mg/kg wet	Sep-22-15	Sep-24-15	
Antimony	**0.965**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Arsenic	**0.107**	0.005	mg/kg wet	Sep-22-15	Sep-24-15	
Barium	**0.66**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Beryllium	< 0.005	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Bismuth	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Boron	< 0.2	0.1	mg/kg wet	Sep-22-15	Sep-24-15	
Cadmium	**0.072**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Calcium	**1720**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Chromium	**0.05**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Cobalt	**0.049**	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Copper	**0.92**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Iron	**45**	1	mg/kg wet	Sep-22-15	Sep-24-15	
Lead	**0.016**	0.004	mg/kg wet	Sep-22-15	Sep-24-15	
Magnesium	**292**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Manganese	**3.83**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Mercury	**0.069**	0.002	mg/kg wet	Sep-22-15	Sep-24-15	
Molybdenum	**0.04**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Nickel	**0.07**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Phosphorus	**3830**	5	mg/kg wet	Sep-22-15	Sep-24-15	
Potassium	**4050**	10	mg/kg wet	Sep-22-15	Sep-24-15	
Selenium	**2.41**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Silver	< 0.02	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Sodium	**867**	2	mg/kg wet	Sep-22-15	Sep-24-15	
Strontium	**1.95**	0.01	mg/kg wet	Sep-22-15	Sep-24-15	
Thallium	**0.007**	0.001	mg/kg wet	Sep-22-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

Analyte	Result / *Recovery*	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: 004 (5091469-06) [Tissue (wet)] Sampled: Sep-15-15, Continued						
Metals in Tissue, Continued						
Tin	< 0.05	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Titanium	**1.45**	0.05	mg/kg wet	Sep-22-15	Sep-24-15	
Uranium	**0.012**	0.001	mg/kg wet	Sep-22-15	Sep-24-15	
Vanadium	**0.08**	0.02	mg/kg wet	Sep-22-15	Sep-24-15	
Zinc	**23.1**	0.5	mg/kg wet	Sep-22-15	Sep-24-15	

REPORTED TO	Palmer Environmental Consulting Group Inc.	**WORK ORDER**	5091469
PROJECT	Coffee Gold	**REPORTED**	Nov-20-15

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in fibatchesfl and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types includ

- **Method Blank (Blk)**: Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS)**: A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM)**: A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5I1347										
Blank (B5I1347-BLK1)				Prepared: Sep-22-15, Analyzed: Sep-24-15						
Aluminum	< 1.0	0.4	mg/kg wet							
Antimony	< 0.005	0.002	mg/kg wet							
Arsenic	< 0.012	0.005	mg/kg wet							
Barium	< 0.02	0.01	mg/kg wet							
Beryllium	< 0.005	0.002	mg/kg wet							
Bismuth	< 0.05	0.02	mg/kg wet							
Boron	< 0.2	0.1	mg/kg wet							
Cadmium	< 0.005	0.002	mg/kg wet							
Calcium	< 5	2	mg/kg wet							
Chromium	< 0.02	0.01	mg/kg wet							
Cobalt	< 0.010	0.004	mg/kg wet							
Copper	< 0.02	0.01	mg/kg wet							
Iron	< 2	1	mg/kg wet							
Lead	< 0.010	0.004	mg/kg wet							
Magnesium	< 5	2	mg/kg wet							
Manganese	< 0.05	0.02	mg/kg wet							
Mercury	< 0.005	0.002	mg/kg wet							
Molybdenum	< 0.02	0.01	mg/kg wet							
Nickel	< 0.02	0.01	mg/kg wet							
Phosphorus	< 12	5	mg/kg wet							
Potassium	< 25	10	mg/kg wet							
Selenium	< 0.05	0.02	mg/kg wet							
Silver	< 0.02	0.01	mg/kg wet							
Sodium	< 5	2	mg/kg wet							
Strontium	< 0.02	0.01	mg/kg wet							
Thallium	< 0.002	0.001	mg/kg wet							
Tin	< 0.05	0.02	mg/kg wet							
Titanium	< 0.12	0.05	mg/kg wet							
Uranium	< 0.002	0.001	mg/kg wet							
Vanadium	< 0.05	0.02	mg/kg wet							
Zinc	< 1.2	0.5	mg/kg wet							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5091469
REPORTED Nov-20-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Metals in Tissue, Batch B5I1347, Continued										
Duplicate (B5I1347-DUP1)	**Source: 5091469-05**		Prepared: Sep-22-15, Analyzed: Sep-24-15							
Aluminum	52.2	0.4	mg/kg wet		31.8			48	40	RPD1
Antimony	0.193	0.002	mg/kg wet		0.182			6	40	
Arsenic	0.146	0.005	mg/kg wet		0.119			20	40	
Barium	1.07	0.01	mg/kg wet		4.00			116	40	RPD1
Beryllium	< 0.005	0.002	mg/kg wet		< 0.005				40	
Bismuth	< 0.05	0.02	mg/kg wet		< 0.05				40	
Boron	< 0.2	0.1	mg/kg wet		< 0.2				40	
Cadmium	0.051	0.002	mg/kg wet		0.045			13	40	
Calcium	2570	2	mg/kg wet		17700			149	60	RPD1
Chromium	0.10	0.01	mg/kg wet		0.07			31	40	
Cobalt	0.080	0.004	mg/kg wet		0.050			45	40	RPD1
Copper	1.13	0.01	mg/kg wet		1.01			10	40	
Iron	125	1	mg/kg wet		69			58	40	RPD1
Lead	0.049	0.004	mg/kg wet		0.022				40	RPD1
Magnesium	257	2	mg/kg wet		546			72	40	RPD1
Manganese	5.25	0.02	mg/kg wet		9.51			58	40	RPD1
Mercury	0.208	0.002	mg/kg wet		0.213			2	40	
Molybdenum	0.04	0.01	mg/kg wet		0.03				40	
Nickel	0.11	0.01	mg/kg wet		0.08			24	40	
Phosphorus	3870	5	mg/kg wet		13400			111	40	
Potassium	3540	10	mg/kg wet		4350			20	40	
Selenium	1.10	0.02	mg/kg wet		1.15			5	40	
Silver	< 0.02	0.01	mg/kg wet		< 0.02				40	
Sodium	1100	2	mg/kg wet		1450			28	40	
Strontium	3.18	0.01	mg/kg wet		21.4			148	60	
Thallium	0.008	0.001	mg/kg wet		0.011			34	40	
Tin	< 0.05	0.02	mg/kg wet		< 0.05				40	
Titanium	3.09	0.05	mg/kg wet		2.46			23	40	
Uranium	0.042	0.001	mg/kg wet		0.098			79	40	
Vanadium	0.25	0.02	mg/kg wet		0.42			52	40	
Zinc	44.6	0.5	mg/kg wet		52.4			16	40	
Reference (B5I1347-SRM1)				Prepared: Sep-22-15, Analyzed: Sep-24-15						
Arsenic	65.4	0.005	mg/kg wet	59.5		110	75-125			
Cadmium	37.9	0.002	mg/kg wet	42.3		90	75-125			
Chromium	1.45	0.01	mg/kg wet	1.95		74	75-125			SRM
Cobalt	1.11	0.004	mg/kg wet	1.06		105	75-125			
Copper	459	0.01	mg/kg wet	497		92	75-125			
Iron	178	1	mg/kg wet	179		100	75-125			
Lead	0.191	0.004	mg/kg wet	0.225		85	75-125			
Manganese	15.9	0.02	mg/kg wet	15.6		102	75-125			
Mercury	0.308	0.002	mg/kg wet	0.292		106	75-125			
Molybdenum	3.60	0.01	mg/kg wet	3.44		105	75-125			
Nickel	4.81	0.01	mg/kg wet	5.30		91	75-125			
Selenium	13.6	0.02	mg/kg wet	10.9		124	75-125			
Strontium	36.7	0.01	mg/kg wet	36.5		101	75-125			
Vanadium	10.1	0.02	mg/kg wet	9.10		111	75-125			
Zinc	139	0.5	mg/kg wet	136		102	75-125			
Strong Acid Leachable Metals, Batch B5I1428										
Blank (B5I1428-BLK1)			Prepared: Sep-23-15, Analyzed: Sep-24-15							
Aluminum	< 20	20	mg/kg dry							
Antimony	< 0.1	0.1	mg/kg dry							
Arsenic	< 0.4	0.4	mg/kg dry							
Barium	< 1	1	mg/kg dry							

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5091469
REPORTED Nov-20-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5I1428, Continued										
Blank (B5I1428-BLK1), Continued				Prepared: Sep-23-15, Analyzed: Sep-24-15						
Beryllium	< 0.1	0.1	mg/kg dry							
Bismuth	< 0.1	0.1	mg/kg dry							
Boron	< 2	2	mg/kg dry							
Cadmium	< 0.04	0.04	mg/kg dry							
Calcium	< 100	100	mg/kg dry							
Chromium	< 1.0	1.0	mg/kg dry							
Cobalt	< 0.1	0.1	mg/kg dry							
Copper	< 0.2	0.2	mg/kg dry							
Iron	< 20	20	mg/kg dry							
Lead	< 0.2	0.2	mg/kg dry							
Lithium	< 0.1	0.1	mg/kg dry							
Magnesium	< 10	10	mg/kg dry							
Manganese	< 0.4	0.4	mg/kg dry							
Mercury	< 0.05	0.05	mg/kg dry							
Molybdenum	< 0.1	0.1	mg/kg dry							
Nickel	< 0.4	0.4	mg/kg dry							
Phosphorus	< 10	10	mg/kg dry							
Potassium	< 10	10	mg/kg dry							
Selenium	< 0.5	0.5	mg/kg dry							
Silicon	< 3000	3000	mg/kg dry							
Silver	< 0.2	0.2	mg/kg dry							
Sodium	< 40	40	mg/kg dry							
Strontium	< 0.2	0.2	mg/kg dry							
Sulfur	< 1000	1000	mg/kg dry							
Tellurium	< 0.1	0.1	mg/kg dry							
Thallium	< 0.1	0.1	mg/kg dry							
Thorium	< 0.5	0.5	mg/kg dry							
Tin	< 0.2	0.2	mg/kg dry							
Titanium	< 2	2	mg/kg dry							
Uranium	< 0.1	0.1	mg/kg dry							
Vanadium	< 0.4	0.4	mg/kg dry							
Zinc	< 2	2	mg/kg dry							
Zirconium	< 2	2	mg/kg dry							
Reference (B5I1428-SRM1)				Prepared: Sep-23-15, Analyzed: Sep-24-15						
Aluminum	18700	20	mg/kg dry	18200		103	86-118			
Antimony	6.3	0.1	mg/kg dry	6.27		100	73-138			
Arsenic	14.2	0.4	mg/kg dry	15.4		92	87-106			
Barium	79	1	mg/kg dry	80.6		98	72-119			
Beryllium	0.5	0.1	mg/kg dry	0.544		96	73-128			
Bismuth	1.9	0.1	mg/kg dry	2.12		90	78-97			
Boron	4	2	mg/kg dry	2.68		133	58-139			
Cadmium	0.20	0.04	mg/kg dry	0.230		89	88-121			
Calcium	3500	100	mg/kg dry	3320		105	92-113			
Chromium	28.4	1.0	mg/kg dry	27.2		105	91-113			
Cobalt	13.0	0.1	mg/kg dry	12.5		104	90-109			
Copper	44.5	0.2	mg/kg dry	44.9		99	92-112			
Iron	33100	20	mg/kg dry	33300		99	91-112			
Lead	13.5	0.2	mg/kg dry	14.4		94	89-111			
Lithium	10.8	0.1	mg/kg dry	9.26		117	73-124			
Magnesium	6100	10	mg/kg dry	5830		105	89-116			
Manganese	1080	0.4	mg/kg dry	1100		98	93-112			
Mercury	0.10	0.05	mg/kg dry	0.0980		102	74-126			
Molybdenum	0.7	0.1	mg/kg dry	0.738		101	93-120			
Nickel	17.7	0.4	mg/kg dry	17.4		102	93-110			
Phosphorus	812	10	mg/kg dry	796		102	86-111			
Potassium	691	10	mg/kg dry	619		112	83-117			

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5091469
REPORTED Nov-20-15

Analyte	Result	MRL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Strong Acid Leachable Metals, Batch B5I1428, Continued										
Reference (B5I1428-SRM1), Continued				Prepared: Sep-23-15, Analyzed: Sep-24-15						
Sodium	428	40	mg/kg dry	340		126	79-130			
Strontium	12.0	0.2	mg/kg dry	11.6		103	85-116			
Thorium	4.4	0.5	mg/kg dry	4.46		99	78-100			
Tin	1.2	0.2	mg/kg dry	1.10		106	78-120			
Titanium	908	2	mg/kg dry	764		119	72-143			
Uranium	0.8	0.1	mg/kg dry	0.940		90	80-102			
Vanadium	60.1	0.4	mg/kg dry	54.9		109	87-116			
Zinc	69	2	mg/kg dry	67.5		102	91-113			

QC Qualifiers:

RPD1 Relative percent difference(s) (RPD) of one or more analytes on duplicate analysis are outside of control limits due to sample heterogeneity.

SRM Recovery of one or more analytes on Standard Reference Material (SRM) analysis are outside of control limits.

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5091469
REPORTED Nov-20-15

		5091469-01	5091469-02	5091469-03	5091469-04	5091469-05	5091469-06
		Soil	**Soil**	**Soil**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Sep-15-15	**Sep-15-15**	**Sep-15-15**	**Sep-11-15**	**Sep-12-15**	**Sep-15-15**
		AQ111-3	**AQ00-2**	**AQREF1-3R**	**002**	**003**	**004**
General Parameters	Moisture (% wet)				79.4	77.1	71
Strong Acid Leachable Metals	Aluminum (mg/kg dry)	17200	19100	14500			
	Antimony (mg/kg dry)	0.7	0.6	1.2			
	Arsenic (mg/kg dry)	10.0	9.9	11.2			
	Barium (mg/kg dry)	153	214	428			
	Beryllium (mg/kg dry)	0.5	0.5	0.4			
	Bismuth (mg/kg dry)	0.2	0.2	0.2			
	Boron (mg/kg dry)	2	2	3			
	Cadmium (mg/kg dry)	0.21	0.27	0.54			
	Calcium (mg/kg dry)	6470	7260	8230			
	Chromium (mg/kg dry)	30.6	34.1	30.3			
	Cobalt (mg/kg dry)	9.7	10.4	9.2			
	Copper (mg/kg dry)	15.9	23.5	22.2			
	Iron (mg/kg dry)	23200	25200	22600			
	Lead (mg/kg dry)	10.1	8.4	9.2			
	Lithium (mg/kg dry)	16.3	16.7	11.9			
	Magnesium (mg/kg dry)	5980	6990	6680			
	Manganese (mg/kg dry)	352	402	375			
	Mercury (mg/kg dry)	0.08	0.10	0.09			
	Molybdenum (mg/kg dry)	0.7	1.2	0.9			
	Nickel (mg/kg dry)	20.5	23.3	22.4			
	Phosphorus (mg/kg dry)	713	786	901			
	Potassium (mg/kg dry)	1100	1390	1260			
	Selenium (mg/kg dry)	0.5	0.6	0.7			
	Silicon (mg/kg dry)	< 3000	< 3000	< 3000			
	Silver (mg/kg dry)	< 0.2	< 0.2	< 0.2			
	Sodium (mg/kg dry)	369	393	329			
	Strontium (mg/kg dry)	42.5	50.4	70.6			
	Sulfur (mg/kg dry)	< 1000	< 1000	< 1000			
	Tellurium (mg/kg dry)	< 0.1	< 0.1	< 0.1			
	Thallium (mg/kg dry)	0.2	0.2	0.2			
	Thorium (mg/kg dry)	8.8	9.2	7.0			
	Tin (mg/kg dry)	0.7	0.6	0.7			
	Titanium (mg/kg dry)	1080	1020	779			
	Uranium (mg/kg dry)	9.9	26.1	6.3			
	Vanadium (mg/kg dry)	56.6	62.9	55.0			
	Zinc (mg/kg dry)	69	73	84			
	Zirconium (mg/kg dry)	4	4	3			
Metals in Tissue	Aluminum (mg/kg wet)				2.0	31.8	17.8
	Antimony (mg/kg wet)				0.272	0.182	0.965
	Arsenic (mg/kg wet)				0.043	0.119	0.107
	Barium (mg/kg wet)				0.17	4.00	0.66

REPORTED TO Palmer Environmental Consulting Group Inc.
PROJECT Coffee Gold

WORK ORDER 5091469
REPORTED Nov-20-15

		5091469-01	5091469-02	5091469-03	5091469-04	5091469-05	5091469-06
		Soil	**Soil**	**Soil**	**Tissue (wet)**	**Tissue (wet)**	**Tissue (wet)**
		Sep-15-15	**Sep-15-15**	**Sep-15-15**	**Sep-11-15**	**Sep-12-15**	**Sep-15-15**
		AQ111-3	**AQ00-2**	**AQREF1-3R**	**002**	**003**	**004**
Metals in Tissue	Beryllium (mg/kg wet)				< 0.005	< 0.005	< 0.005
	Bismuth (mg/kg wet)				< 0.05	< 0.05	< 0.05
	Boron (mg/kg wet)				< 0.2	< 0.2	< 0.2
	Cadmium (mg/kg wet)				< 0.005	0.045	0.072
	Calcium (mg/kg wet)				385	17700	1720
	Chromium (mg/kg wet)				< 0.02	0.07	0.05
	Cobalt (mg/kg wet)				0.021	0.050	0.049
	Copper (mg/kg wet)				0.39	1.01	0.92
	Iron (mg/kg wet)				7	69	45
	Lead (mg/kg wet)				< 0.010	0.022	0.016
	Magnesium (mg/kg wet)				305	546	292
	Manganese (mg/kg wet)				0.56	9.51	3.83
	Mercury (mg/kg wet)				0.068	0.213	0.069
	Molybdenum (mg/kg wet)				< 0.02	0.03	0.04
	Nickel (mg/kg wet)				0.03	0.08	0.07
	Phosphorus (mg/kg wet)				3000	13400	3830
	Potassium (mg/kg wet)				5200	4350	4050
	Selenium (mg/kg wet)				0.90	1.15	2.41
	Silver (mg/kg wet)				< 0.02	< 0.02	< 0.02
	Sodium (mg/kg wet)				280	1450	867
	Strontium (mg/kg wet)				0.61	21.4	1.95
	Thallium (mg/kg wet)				0.006	0.011	0.007
	Tin (mg/kg wet)				< 0.05	< 0.05	< 0.05
	Titanium (mg/kg wet)				0.26	2.46	1.45
	Uranium (mg/kg wet)				< 0.002	0.098	0.012
	Vanadium (mg/kg wet)				< 0.05	0.42	0.08
	Zinc (mg/kg wet)				5.7	52.4	23.1