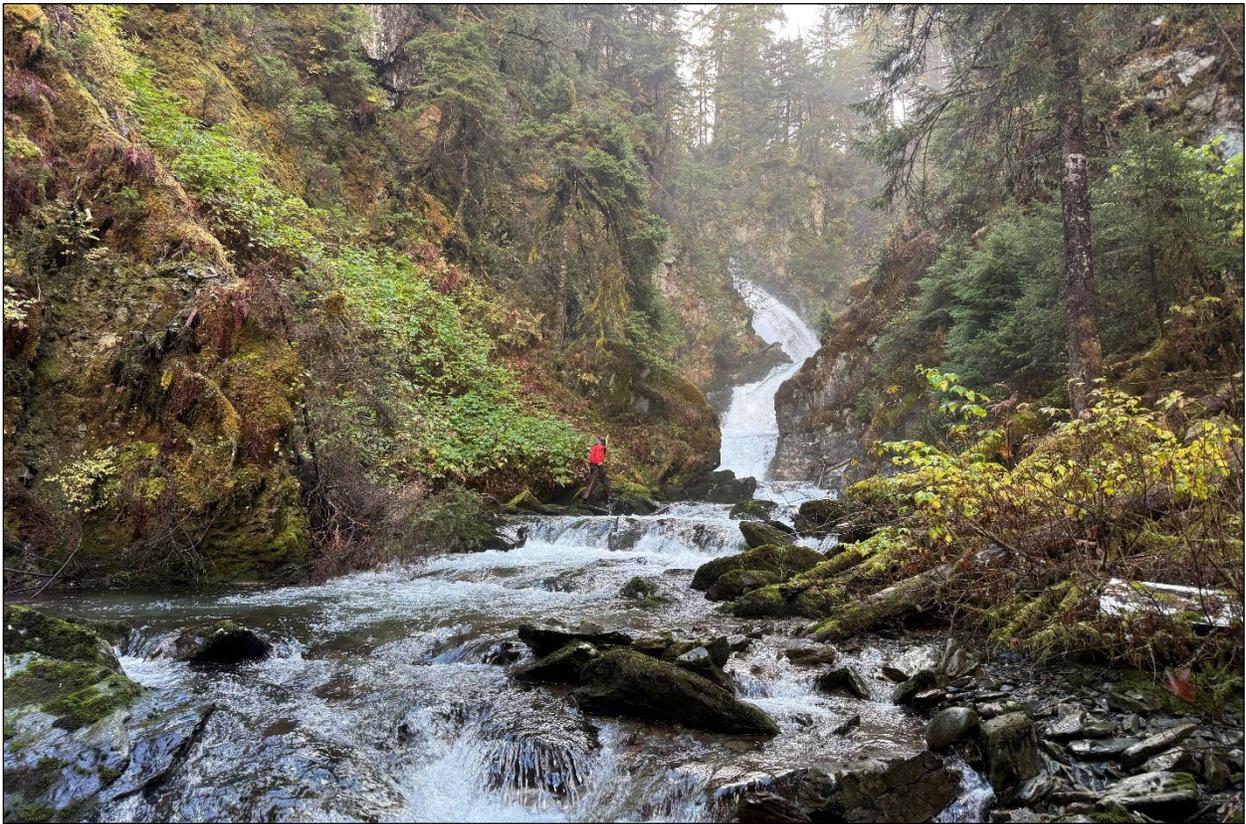


Technical Report No. 26-02

Aquatic Studies at Kensington Mine, 2025

by

Greg Albrecht



February 2026

Alaska Department of Fish and Game

Habitat Section



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in reports by the Divisions of Sport Fish and Commercial Fisheries and Habitat Section. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figures or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mid-eye-to-fork	MEF
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	mid-eye-to-tail fork	METF
hectare	ha	at	@	standard length	SL
kilogram	kg	compass directions:		total length	TL
kilometer	km	east	E		
liter	L	north	N	Mathematics, statistics	
meter	m	south	S	<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	west	W	alternate hypothesis	H _A
millimeter	mm	copyright	©	base of natural logarithm	e
nanometer	nm	corporate suffixes:		catch per unit effort	CPUE
		Company	Co.	coefficient of variation	CV
Weights and measures (English)		Corporation	Corp.	common test statistics	(F, t, χ^2 , etc.)
cubic feet per second	ft ³ /s	Incorporated	Inc.	confidence interval	CI
foot	ft	Limited	Ltd.	correlation coefficient	
gallon	gal	District of Columbia	D.C.	(multiple)	R
inch	in	et alii (and others)	et al.	correlation coefficient	
mile	mi	et cetera (and so forth)	etc.	(simple)	r
nautical mile	nmi	exempli gratia		covariance	cov
ounce	oz	(for example)	e.g.	degree (angular)	°
pound	lb	Federal Information Code	FIC	degrees of freedom	df
quart	qt	idest (that is)	i.e.	expected value	E
yard	yd	latitude or longitude	lat. or long.	greater than	>
		monetary symbols		greater than or equal to	≥
Time and temperature		(U.S.)	\$, ¢	harvest per unit effort	HPUE
day	d	months (tables and figures): first three letters	Jan,...,Dec	less than	<
degrees Celsius	°C	registered trademark	®	less than or equal to	≤
degrees Fahrenheit	°F	trademark	™	logarithm (natural)	ln
degrees kelvin	K	United States	U.S.	logarithm (base 10)	log
hour	h	(adjective)		logarithm (specify base)	log ₂ , etc.
hour	h	United States of America (noun)	USA	minute (angular)	'
minute	min	U.S.C.	United States Code	no data	ND
second	s	U.S. state	use two-letter abbreviations (e.g., AK, WA)	not significant	NS
				null hypothesis	H ₀
Physics and chemistry				percent	%
all atomic symbols				probability	P
alternating current	AC			probability of a type I error (rejection of the null hypothesis when true)	α
ampere	A			probability of a type II error (acceptance of the null hypothesis when false)	β
calorie	cal			second (angular)	"
direct current	DC			standard deviation	SD
hertz	Hz			standard error	SE
horsepower	hp			variance	
hydrogen ion activity (negative log of)	pH			population	Var
inch of mercury	inHg			sample	var
kilowatt	kW				
Kilopascal	kPa				
Nephelometric Turbidity Unit	NTU				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

TECHNICAL REPORT NO. 26-02

AQUATIC STUDIES AT KENSINGTON MINE, 2025

by

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Alaska Department of Fish and Game
Habitat Section, Southeast Region
P.O. Box 110024, Juneau, Alaska, 99811

February 2026

This investigation was fully financed by Coeur Alaska, Inc.

Cover: Habitat Biologist near Johnson Creek below the barrier falls August, 2025.

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Thank you all for your contribution.

EXECUTIVE SUMMARY

Since 2011, the Alaska Department of Fish and Game Habitat Section has completed the aquatic biomonitoring studies required by the U.S. Forest Service and Alaska Department of Environmental Conservation for Coeur Alaska Inc.'s Kensington Mine operations. The aquatic studies include sampling periphyton, benthic macroinvertebrates, sediment element concentrations, and adult salmon in Slate, Sherman, and Johnson Creeks; reference sampling sites include West Fork Slate Creek, Upper Slate Creek SP1 and SP2, Upper Johnson Creek SP2, and Upper Sherman Creek. Mine-influenced sampling sites include East Fork Slate Creek, Lower Slate Creek SP1, Upper Johnson Creek SP1, Lower Johnson Creek, and Lower Sherman Creek SP1 and SP2.

The National Weather Service (2026) reported the Juneau area received 22.4 cm precipitation in March–April (2.3 cm above normal), experienced an average temperature 2.4 °F above normal, and a lower than average snowpack at elevation prior to spring macroinvertebrate sampling. Prior to summer periphyton sampling in late July, the Juneau area received 21.6 cm of rain in June and July (1.2 cm below normal) and experienced an average temperature of 55.8 °F, which is the same as the long-term average.

The August 9, 2024, fish mortality event in Sherman Creek prompted additional sampling 2024 and 2025, which is not required by the Alaska Pollution Discharge Elimination System (APDES) permit or the U.S. Forest Service approved Plan of Operations and, though relevant to the annual biomonitoring program, is documented in separate trip reports.^{a,b} These reports detail a return of benthic macroinvertebrate (BMI) community metrics at the site 80 m downstream of the Sherman Creek Outfall 001 to those at the upstream site in 2025, as well as recolonization of the reaches downstream of the outfall by resident fish, though not to historic numbers.

The 2025 mean chlorophyll *a* density among sites ranged 1.33–6.25 mg/m², which were in the middle to upper range observed since we began sampling in 2011. The lowest observed mean density was at Upper Sherman Creek, which is a high gradient reach with shading from a ridge to the south. The proportions of chlorophyll *b* and chlorophyll *c* were consistent with community composition observed in previous years. Despite environmental and stream characteristic differences (e.g., elevation, geomorphic, and hydrological) among sites, mean chlorophyll *a* densities tend to follow the same trend, with 2025 being an average to higher year.

Across all sites, BMI mean densities ranged 1,022–10,088 BMI/m² and most sites were in the upper range documented from 2011 and 2024. The mean densities of Ephemeroptera, Plecoptera, and Trichoptera (EPT) insects among sites ranged 455–3,645 EPT/m² and composed 10–81% of the samples. Mean EPT densities among sites historically follow a similar trend, despite natural variation due to environmental factors and site characteristics. The number of taxa identified were consistent with or higher than previous years at each site.

Element concentrations in sediment samples were within ranges observed in previous years at each site. The data are compared with the threshold effects concentrations (TEC) and the probable effects concentrations (PEC) for inorganics in freshwater sediment guidelines published by

^a Jesse Lindgren, Habitat Biologist, to Kate Kanouse, Southeast Regional Supervisor, ADF&G Habitat Section. Memorandum: Update to the August 9, 2024, Sherman Creek fish mortality event; dated 5/2/2025.

^b Greg Albrecht, Habitat Biologist, to Kate Kanouse, Southeast Regional Supervisor, DF&G Habitat Section. Memorandum: Resident fish presence assessment in Sherman Creek; dated 1/29/2026.

Buchman (2008). As in previous years, within reference and mine influence sites, arsenic, cadmium, copper, nickel, and zinc concentrations were near or above the freshwater sediment guidelines. East Fork Slate Creek sediment element concentrations of arsenic, cadmium, nickel, and zinc, found at all sites, are elevated to near or above the PEC and are generally more variable. Lower Johnson Creek had concentrations of arsenic, copper, nickel, and zinc near or above the TEC, while the reference site at Upper Johnson Creek did not. Upper and Lower Sherman Creek element concentrations were similar, with the exception of a spike in arsenic at Upper Sherman Creek above the PEC.

From August 4 to October 15, 2025, we counted adult salmon during peak salmon runs and observed near normal pink salmon *Oncorhynchus gorbuscha* returns in Slate and Johnson Creeks, but an unusually low odd-year return in Sherman Creek. ADF&G Commercial fisheries data suggests other drainages in Northern Lynn Canal had unusually low pink salmon runs. Coho *O. kisutch* and chum *O. keta* salmon observations for all sites surveyed were similar to previous years.

INTRODUCTION

The Kensington Mine is located near Berners Bay in Southeast Alaska (Figure 1), about 72 km north of Juneau and 56 km south of Haines within the City and Borough of Juneau and the Tongass National Forest (USDA 2021). The mine is owned and operated by Coeur Alaska, Inc. (Coeur), a wholly owned subsidiary of Coeur Mining, Inc.

The underground mine began producing gold concentrate for export on June 24, 2010. Tailings are disposed underground as paste backfill and in the tailings treatment facility (TTF) as slurry through a pipeline from the mill. Mine infrastructure is located in three drainages that support resident and anadromous fish: the TTF, dam, and water treatment plant in the Slate Creek drainage; the waste rock pile, camp, and mill facilities in the Johnson Creek drainage; and the waste rock pile and mine water treatment plant in the Sherman Creek drainage.

Contractors gathered aquatic data for the Kensington Mine from the late 1980s through 2005,^c which provided a basis for Alaska Department of Fish and Game (ADF&G) Habitat Section permit decisions, Plan of Operations monitoring requirements (Coeur 2022), the U.S. Environmental Protection Agency (USEPA) National Pollutant Elimination Discharge System Permit No. AK-005057-1, and the Alaska Department of Environmental Conservation Alaska Pollutant Discharge Elimination System (APDES) Permit No. AK0050571. Monitoring and research reports published during project development and operations are in Aquatic Science Inc. (2006, 2007, 2008, 2009a, 2009b, 2009c, 2009d, 2011), Timothy and Kanouse (2012–2014), Kanouse (2015), Brewster (2016), Willson-Naranjo and Kanouse (2016), Kanouse and Zutz (2017), Zutz (2018), Albrecht (2018, 2019), Kane (2020–2022), Lindgren and King (2023–2024), and Lindgren (2025).

Habitat Section staff have completed the aquatic studies required annually for the Kensington Mine in Slate, Johnson, and Sherman Creeks since 2011. The APDES Permit requires sampling periphyton, benthic macroinvertebrates (BMI), and sediment. We document stream condition using chlorophyll density and composition, BMI density and community composition, and sediment element concentrations. Habitat Section staff also completed adult salmon counts required in the project Plan of Operations (Coeur 2022, USDA 2022).

^c Contractor reports are listed in Zutz (2018).

PURPOSE

This technical report summarizes the 2025 aquatic study data and documents the condition of biological communities and sediments in Slate, Johnson, and Sherman Creeks near mine development and operations, satisfying the aquatic biological and sediment monitoring requirements summarized in the project Plan of Operations Amendment 1 (Coeur 2022, USDA 2022) and included in the APDES Permit AK0050571.

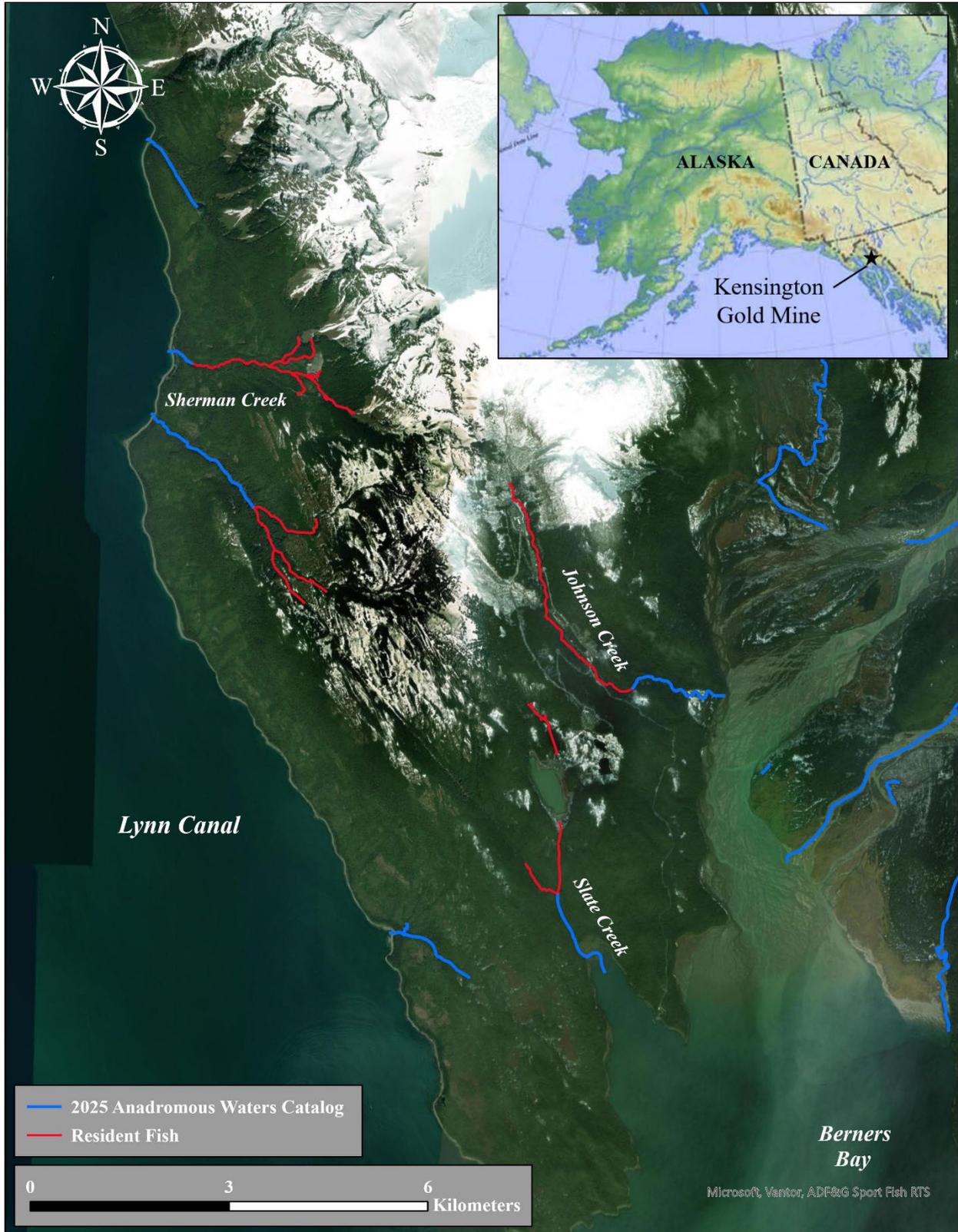


Figure 1.—Kensington Mine project area; streams adjacent to mine infrastructure and associated with aquatic studies are illustrated.

STUDY AREA

Slate Creek

Slate Creek drains a 10.5 km² watershed into Slate Cove on the northwest side of Berners Bay (Coeur 2022; Figure 2). Water from the TTF (Figure 3) and acid rock drainage seepage from the TTF spillway are collected and treated at TTF water treatment plants, then discharged to East Fork Slate Creek via Outfall 002; the Upper Slate Lake diversion and other pipelines transport water around the TTF collection channel into the new plunge pool in East Fork Slate Creek that was constructed in fall 2024 (Figure 4). Approximately 1 km upstream of the mouth of Lower Slate Creek, two 25 m waterfalls at the confluence of the East and West Forks preclude upstream fish migration, as do the TTF dam and diversion pipeline.

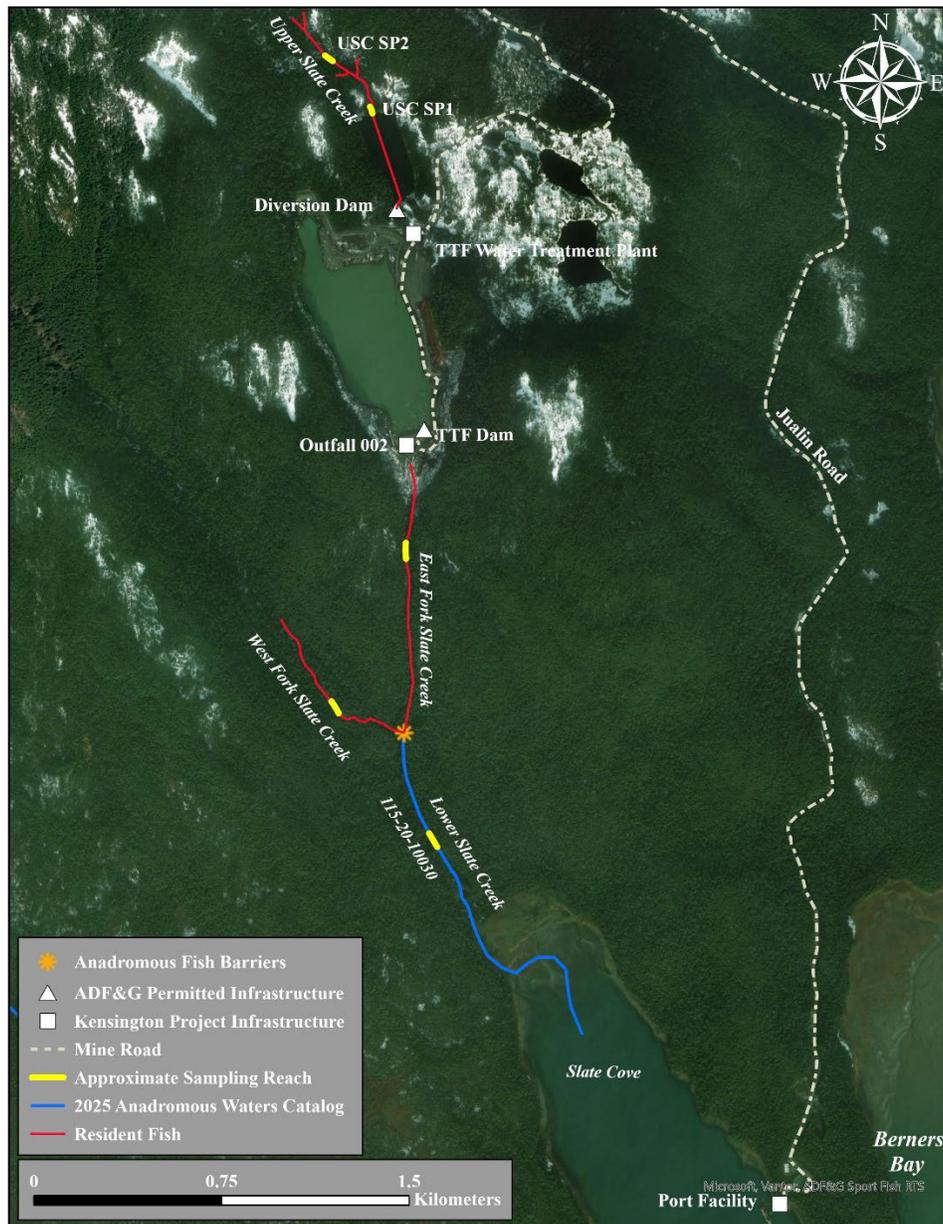


Figure 2.—Slate Creek area.



Figure 3.–Tailings treatment facility and dam (background).



Figure 4.–Tailings treatment facility Upper Slate Lake diversion line, Outfall 002, and plunge pool, 2025. Photo courtesy of Coeur Alaska

Lower Slate Creek

Lower Slate Creek comprises a 1.6 km reach between the stream mouth in Slate Cove and the two waterfalls at the confluence of East and West Fork Slate Creek and is a mixture of water from the East and West Forks, Outfall 002, and Upper Slate Lake. Slate Creek (ADF&G Stream No. 115-20-10030) provides habitat for chum, coho, and pink salmon, and eulachon *Thaleichthys pacificus* (Giefer and Evers 2025). We also have documented Dolly Varden *Salvelinus malma* and cutthroat trout *O. clarkii* in the drainage (Timothy and Kanouse 2012). We sample periphyton, BMIs, and sediment at Sample Point 1 (SP1; about 9 m elevation; Figure 5), a gravel-dominated medium moderate gradient (2–6%) mixed control channel type (Paustian 2010)—and count adult salmon throughout Lower Slate Creek to the barrier falls.



Figure 5.—Lower Slate Creek SP1 during periphyton sampling, July 25, 2025.

West Fork Slate Creek

Located in a valley approximately 800 m west of the TTF, West Fork Slate Creek (Figure 6) is not influenced by mine activities; the sample reach represents natural background conditions in the drainage. West Fork Slate Creek is a tributary to Lower Slate Creek and provides habitat for Dolly Varden, the barrier falls precludes anadromous fish presence (Timothy and Kanouse 2014). We sample periphyton and BMIs about 600 m upstream of the waterfall, at about 85 m elevation in a cobble-dominated small moderate gradient mixed control channel type (Paustian 2010).



Figure 6.—West Fork Slate Creek during periphyton sampling, July 25, 2025.

East Fork Slate Creek

East Fork Slate Creek (Figure 7) is a tributary to Lower Slate Creek and comprises a 1 km reach between the confluence with West Fork Slate Creek and the recent stage 4a TTF dam construction discharge plunge pool. East Fork Slate Creek discharge is dependent on Upper Slate Lake and other freshwater drainage discharges—routed through diversion pipelines bypassing the TTF—and Outfall 002^d effluent discharge from the TTF water treatment plant. In fall 2024, as part of the stage 4a dam preconstruction raise, the discharge location of Outfall 002 and other pipelines were extended about 140 m, about 60 upstream of the biomonitoring sampling site and a sharp bedrock curve. The stream beneath the 140 m pipeline extension was filled, reducing biological and sediment contribution from the upstream lotic source and may influence sample results.

East Fork Slate Creek provides habitat and downstream fish passage for Dolly Varden and threespine stickleback *Gasterosteus aculeatus* (Kanouse and Zutz 2017) emigrating from Upper Slate Lake, currently via the diversion pipeline. We sample periphyton, BMIs, and sediment in East Fork Slate Creek 200 m downstream of the TTF, and about 60 m downstream of Outfall 002, at about 198 m elevation in a small moderate gradient bedrock contained channel (Paustian 2010) where angular cobble substrate is dominant, sediment contribution to the reach is limited due to the presence of upstream infrastructure.

^d Outfall 002 began discharging to East Fork Slate Creek in December 2010.



Figure 7.—East Fork Slate Creek during periphyton sampling, July 25, 2025.

Upper Slate Creek

Upper Slate Creek (Figure 8) is a tributary to Upper Slate Lake, upstream of mine influence, and the sample reach serves to represent natural background conditions in the drainage. The stream provides habitat for Dolly Varden (Albrecht 2018). We sample periphyton, BMIs, and sediment in Upper Slate Creek at SP1 within 75 m of the lake at about 229 m elevation and at SP2, approximately 325 m upstream of Upper Slate Lake at about 244 m elevation—both reaches are classified as micro moderate gradient mixed control channel types (Paustian 2010). Site SP2 was added in 2024 as an additional reference site, because at mine closure the TTF and Upper Slate Lake will be combined and flood the long-term biomonitoring site SP1 in Upper Slate Creek (Figure 9).



Figure 8.—Upper Slate Creek SP1 during periphyton sampling, July 24, 2025.



Figure 9.—Upper Slate Creek SP2 during periphyton sampling July 24, 2025.

Johnson Creek

Johnson Creek drains a 14.6 km² watershed to the Lace River^e on the northwest shore of Berners Bay (Coeur 2022; Figure 10). A 30 m waterfall about 1.5 km upstream of the Lower Johnson Creek mouth prevents upstream fish migration. Middle Johnson Creek is the 2.5 km reach between the waterfall and Jualin Road Bridge #2. Upper Johnson Creek is the reach upstream of Jualin Road Bridge #2 to the headwaters, and flows adjacent to the mill facilities, camp, portals, and includes the water supply infiltration gallery which provides a secondary source of fresh water for processing.^f Upper and Middle Johnson Creek are immediately adjacent to supporting infrastructure and the Jualin Road crosses the stream at two locations: Bridges #1 and #2.

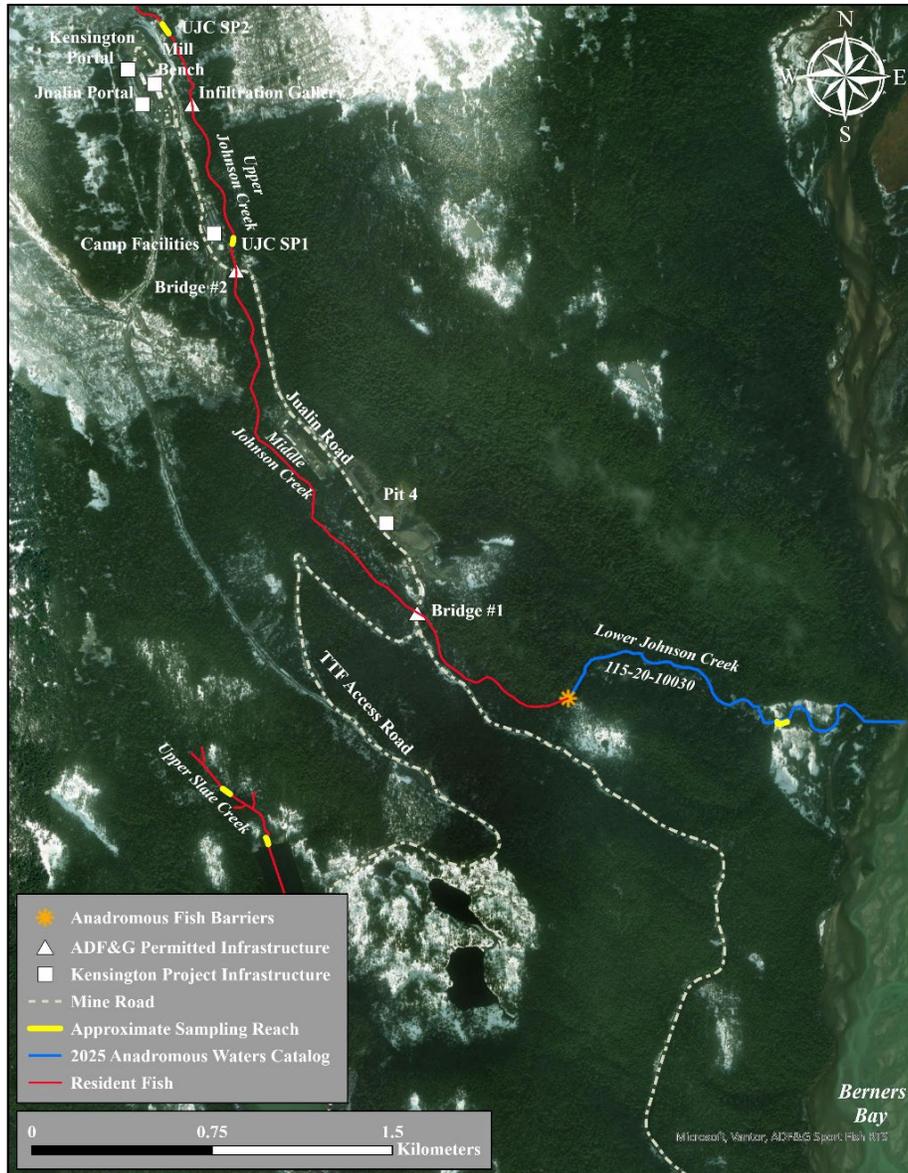


Figure 10.—Johnson Creek area.

^e ADF&G Stream No. 115-20-10200 provides habitat for coho salmon and eulachon.

^f Authorized under Fish Habitat Permit FH11-I-0130.

Lower Johnson Creek

Lower Johnson Creek comprises a 1.5 km reach between the Lace River and a 30 m waterfall precluding upstream fish migration; the reach is a mixture of drainages near mine infrastructure in Middle^g and Upper Johnson Creeks, and other natural upstream drainages such as Snowslide Creek. Johnson Creek (Stream No. 115-20-10070) provides habitat for chum, coho, and pink salmon (Giefer and Evers 2025). We also documented Dolly Varden and cutthroat trout in the drainage (Timothy and Kanouse 2012). We sample BMIs and sediment about 600 m upstream from the mouth at about 9 m elevation in a low gradient moderate width floodplain channel type (Figure 11; Paustian 2010) and count adult salmon throughout Lower Johnson Creek.



Figure 11.–Lower Johnson Creek.

Upper Johnson Creek

Upper Johnson Creek provides habitat for Dolly Varden (Timothy and Kanouse 2012). 2025 marks the second year of sampling at a new site: Upper Johnson Creek SP2, to provide reference data representing natural background conditions above mine influence (e.g. the Kensington waste rock stockpile). We sample BMIs and sediment at SP1, about 50 m upstream of the Jualin Road Bridge #2 and about 207 m elevation, and BMIs at Upper Johnson Creek SP2 about 1,050 m upstream of the Jualin Road Bridge #2 and about 256 m elevation, both characterized as a medium width moderate grade mixed control channel type (Paustian 2010) with boulder and cobble substrate dominant (Figure 12, 13).

^g Mine facilities include the domestic wastewater treatment plant, warehouse, storage of reclamation material and acid-generating rock stockpiles, bridges, and Pit 4; drainages include the domestic wastewater outfall, and storm water discharges. Aquatic studies are not required in Middle Johnson Creek.



Figure 12.—Upper Johnson Creek SP1 during macroinvertebrate sampling, 2025.



Figure 13.—Upper Johnson Creek SP2 during macroinvertebrate sampling, 2025.

Sherman Creek

Sherman Creek drains a 10.8 km² watershed to the east shore of Lynn Canal (Coeur 2022; Figure 14). A 15 m waterfall approximately 460 m upstream from the Lower Sherman Creek mouth precludes upstream fish migration. Middle Sherman Creek comprises the 2 km reach between the waterfall and the Comet Beach Road bridge; Upper Sherman Creek comprises the reach upstream of the bridge to the headwaters. Water from the underground workings is collected and treated at the Comet Water Treatment plants, then discharged to Middle Sherman Creek via Outfall 001.

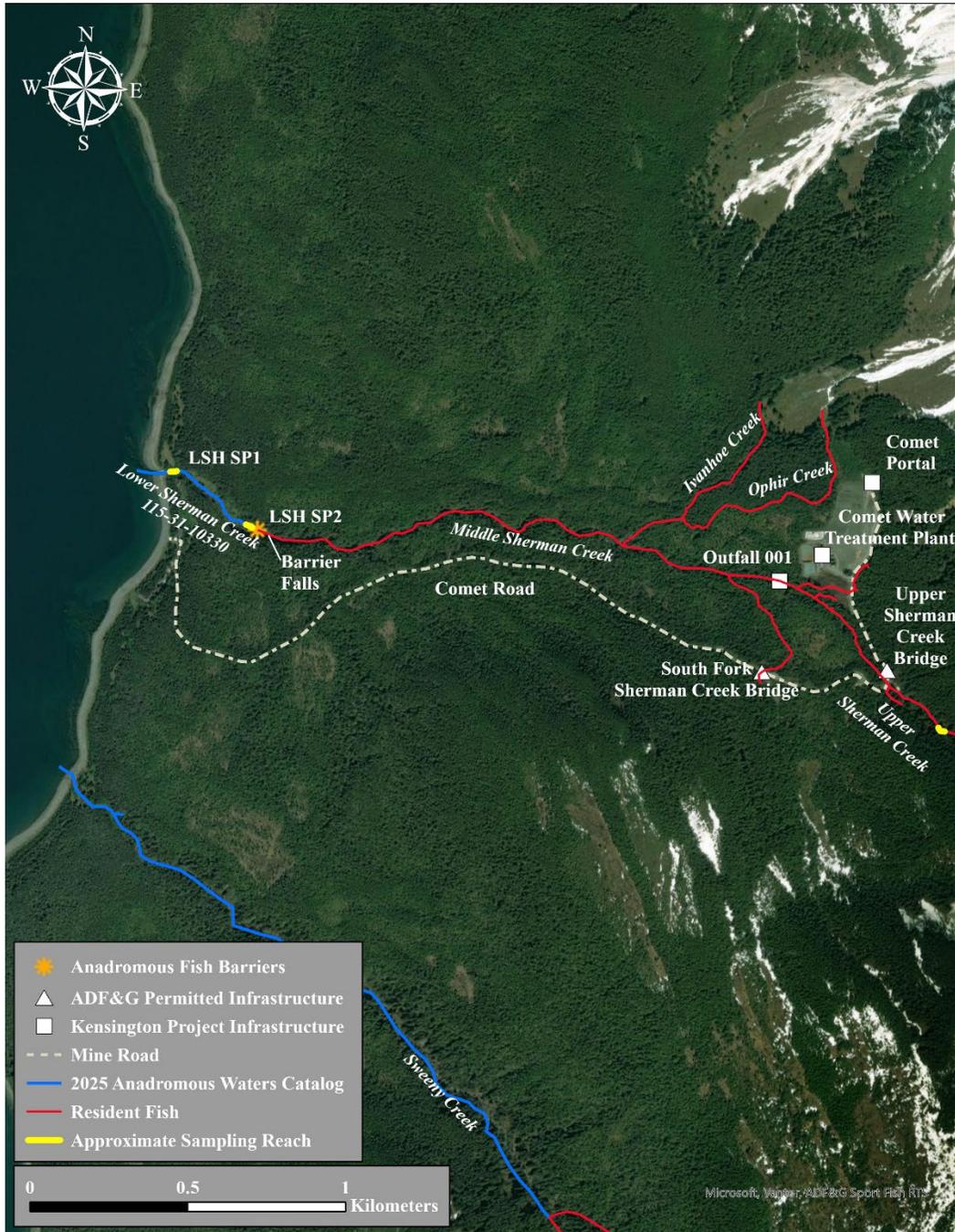


Figure 14.—Sherman Creek area.

Lower Sherman Creek

Lower Sherman Creek is a mixture of drainages near and from mine infrastructure in Middle Sherman Creek and its tributaries.^h Sherman Creek (Stream No. 115-31-10330) provides habitat for chum and pink salmon (Giefer and Evers 2025) and Dolly Varden below and above the barrier to anadromous fish (Timothy and Kanouse 2012). We sample periphyton, BMIs, and sediment in a medium width moderate gradient mixed control channel type (Paustian 2010) at Sample Point 1 (SP1; about 12 m elevation; Figure 15), and periphyton and BMIs at Sample Point 2 (SP2; about 26 m elevation; Figure 16), a similar channel type. Also, we count adult pink and chum salmon throughout Lower Sherman Creek.



Figure 15.–Lower Sherman Creek SP1 during periphyton sampling, July 24, 2025.

^h Mine facilities and infrastructure include the Comet water treatment plant, waste rock pile, bridges and culverts and Comet water treatment plan Outfall 001; drainages include Ivanhoe Creek, Ophir Creek, and South Fork Sherman Creek.



Figure 16.–Lower Sherman Creek SP2 during periphyton sampling, July 24, 2025.

Upper Sherman Creek

We sampled a second year at Upper Sherman Creek to provide reference data representing natural background conditions above mine influence (e.g. the Comet waste rock stockpile and Outfall 001). Upper Sherman Creek provides habitat for Dolly Varden. We sample periphyton, BMIs, and sediment upstream of the Upper Sherman Creek bridge at about 250 m elevation in a small width high grade mixed control channel type (Figure 17; Paustian 2010).



Figure 17.–Upper Sherman Creek during periphyton sampling July 24, 2025.

AQUATIC STUDIES AND LOCATIONS

Between May 5, 2025, and October 15, 2025, we completed the Kensington Mine aquatic studies required in the project Plan of Operations (Coeur 2022) and APDES Permit AK0050571. Sampling locations of the required aquatic studies for each sample site are detailed in Table 1.

Table 1.–Aquatic studies sampling sites and schedule, 2025.

Location	Sample Site	Latitude	Longitude	Date Sampled
Lower Slate Creek SP1	Periphyton	58.7905	-135.0345	7/25
	Benthic macroinvertebrates	58.7905	-135.0345	5/6
	Sediment composition and element concentrations	58.7905	-135.0345	7/25
	Adult pink, chum, and coho salmon surveys	58.7880	-135.0315	8/4-10/15
	58.7964	-135.0389		
West Fork Slate Creek	Periphyton	58.7993	-135.0457	7/25
	Benthic macroinvertebrates	58.7993	-135.0457	5/6
	Sediment composition and element concentrations	58.7993	-135.0457	7/25
East Fork Slate Creek	Periphyton	58.8045	-135.0381	7/25
	Benthic macroinvertebrates	58.8045	-135.0381	5/6
	Sediment composition and element concentrations	58.8053	-135.0383	7/25
Upper Slate Creek SP1	Periphyton	58.8189	-135.0415	7/24
	Benthic macroinvertebrates	58.8189	-135.0415	5/6
	Sediment composition and element concentrations	58.8189	-135.0416	7/24
Upper Slate Creek SP2	Periphyton	58.8206	-135.0445	7/24
	Benthic macroinvertebrates	58.8206	-135.0445	5/6
	Sediment composition and element concentrations	58.8206	-135.0445	7/24
Lower Johnson Creek	Sediment composition and element concentrations	58.8235	-135.0042	7/25
	Benthic macroinvertebrates	58.8235	-135.0042	5/5
	Adult pink, chum, and coho salmon surveys	58.8241	-134.9999	8/4-10/15
		58.8243	-135.0201	
Upper Johnson Creek SP1	Benthic macroinvertebrates	58.8407	-135.0450	5/6
	Sediment composition and element concentrations	58.8407	-135.0450	7/24
Upper Johnson Creek SP2	Benthic macroinvertebrates	58.849	-135.0502	5/5
Lower Sherman Creek SP1	Periphyton	58.8687	-135.1415	7/24
	Benthic macroinvertebrates	58.8687	-135.1415	5/5
	Sediment composition and element concentrations	58.8687	-135.1415	7/24
	Adult pink and chum salmon surveys	58.8689	-135.1422	8/4-10/15
	58.8671	-135.1367		
Lower Sherman Creek SP2	Periphyton	58.8674	-135.1381	7/24
	Benthic macroinvertebrates	58.8674	-135.1381	5/5
Upper Sherman Creek	Periphyton	58.8619	-135.0983	7/24
	Benthic macroinvertebrates	58.8619	-135.0983	5/5
	Sediment composition and element concentrations	58.8619	-135.0983	7/24

Periphyton Chlorophyll Density and Composition Monitoring

The APDES permit (Section 1.6.5.3) requires annual monitoring of periphyton chlorophyll density and composition within mining influence at Lower Slate, East Fork Slate, Lower Sherman Creeks, and at reference reaches above mine influence at West Fork Slate, Upper Slate, Upper Sherman, and Upper Johnson Creeks to detect changes in baseline primary productivity compared to natural variation due to factors such as mineral seeps, climate, stream migration and stream flow. Annual

periphyton sampling occurs between late-June and early-August and not within three weeks following peak snowmelt discharge.

Periphyton is composed of primary producing organisms such as algae, cyanobacteria, heterotrophic microbes, and detritus attached to the submerged surfaces of aquatic ecosystems. Algal density and community structure are influenced by water and sediment quality through physical, chemical, and biological factors that change throughout the year (Barbour et al. 1999).

The concentration of chlorophyll *a* (Chl-*a*) pigment in periphyton samples provides an estimate of active algal biomass (density), while concentrations of chlorophyll *b* (Chl-*b*) and chlorophyll *c* (Chl-*c*) pigments estimate the composition of algal organisms present, such as green algae that produce Chl-*b*, and diatoms and brown algae that produce Chl-*c*. The chlorophyll data are used to document primary productivity (e.g., live algal biomass).

Benthic Macroinvertebrate Density and Community Composition Monitoring

The APDES permit (Section 1.6.5.2) requires annual monitoring of BMI density and community composition within mining influence at Lower Slate, East Fork Slate, Upper Johnson, and Lower Sherman Creeks and at reference reaches above mine influence at West Fork Slate and Upper Slate, Upper Johnson, and Upper Sherman Creeks to detect changes in baseline secondary productivity compared to natural variation due to factors such as mineral seeps, climate, stream migration and stream flow. Annual BMI sampling occurs between late-April and May after spring breakup and before peak snowmelt to detect changes over time. Sampling targets riffle habitats which support greater densities of EPT taxa than other stream habitat types (Barbour et al. 1999) and generally are sensitive to environmental changes and have short life cycles. The BMI data are used to document secondary productivity (e.g. macroinvertebrate density and diversity).

BMI's classified in the orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies), collectively known as EPT taxa, include genera sensitive to changes in water and sediment quality (Barbour et al. 1999). These organisms are secondary producers which feed upon periphyton and other macroinvertebrates, and are a food source for fish.

Adult Salmon Count Monitoring

The Plan of Operations (Coeur 2022, USDA 2022) requires annual counts of adult chum, coho, and pink salmon in both Lower Slate and Johnson Creeks and adult pink and chum salmon in Lower Sherman Creek throughout the peak run period for each species.ⁱ Annual peak run sampling occurs between August and November depending on natural variation of adult salmon spawning. The data are used to document adult salmon presence.

Sediment Composition and Element Concentrations Monitoring

The APDES permit (Section 1.6.4) requires annual analysis of three^j fine sediment samples within mining influence at Lower Slate, East Fork Slate, Lower Johnson, and Lower Sherman Creeks and at reference reaches above mine influence at Upper Slate, Upper Sherman, and Upper Johnson

ⁱ Per the USFS (2022) Record of Decision. During the years 2011–2021, we counted fish throughout the entire spawning seasons.

^j In 2020, Coeur voluntarily agreed and we collected and annually reported results of three samples at each site, to document element concentration variability; after reviewing the data, collecting three sediment samples per site was incorporated in the 2024 APDES permit renewal. Prior to 2020, we collected one sediment sample per site as required per the APDES permit.

Creeks to detect changes in sediment element concentrations over time. Annual sediment sampling occurs in July and samples are analyzed for particle size, total solids, total volatile solids, total sulfide, total organic carbon, and total concentrations of silver (Ag), aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), mercury (Hg), nickel (Ni), lead (Pb), selenium (Se), and zinc (Zn).

Sediment element concentrations are influenced by a variety of factors, such as geochemical composition and weathering within the watershed, sediment grain size, organic content, and development/disturbance (Tchounwou et al. 2012). Subsequently, sediment element concentrations influence benthic aquatic productivity, and heavy metals in sediments can decrease BMI taxa richness and alter the composition of BMI communities (Qu et al. 2010).

METHODS

We review data sets annually to ensure accuracy and consistency with modifications to the methods; corrections and updates are reported in the document and appendices. The most recent technical report presents the current data sets and should be used to analyze data from previous years.

PERIPHYTON: CHLOROPHYLL DENSITY AND COMPOSITION

Sample Collection and Analysis

Sampling methods are adapted from Barbour et al. (1999). Ten smooth, flat, undisturbed, and perennially wetted rocks were collected in riffle habitats in less than 0.45 m water depth at each sample site. To collect a sample from each rock, a 5 × 5 cm square of high-density foam was held on the sample area; the area around the foam was scrubbed with a toothbrush to remove algae and other organisms outside the sample area. The rock was rinsed by submerging it in the stream while holding the foam in place; the toothbrush also was rinsed and scrubbed in the stream to remove remnant periphyton.

A 47 mm diameter Type A/E 1 μm glass fiber filter was placed into a Nalgene® filter receptacle attached to a vacuum pump with a gauge. The foam square was removed and the underside of the foam and the sample area were gently scrubbed in a circular pattern with the toothbrush into the filter receptacle. Stream water in a wash bottle was used to rinse loosened periphyton from the foam, sample area of the rock, toothbrush, and the inside of the filter receptacle onto the filter. The toothbrush was rinsed inside the receptacle, and the sample area was scrubbed a second time and the rinse cycle repeated. With most of the water pumped through the filter, maintaining pressure less than 34 kPa, a few drops^k of saturated magnesium carbonate solution were added to the filter^l. After all the water was pumped through the glass fiber filter, it was removed from the receptacle, folded in half with the sample inside, and wrapped in a white coffee filter for additional moisture absorption. The samples were placed in a sealed, labeled plastic bag with desiccant and stored in a light-proof cooler containing frozen icepacks during transportation; the samples were stored in a -20°C freezer in the ADF&G Douglas laboratory until processing.

USEPA (1997) protocol was followed for chlorophyll extraction and measurement, determining instrument and estimated detection limits, and data analysis.^m Samples were removed from the freezer, cut into small pieces, and placed into individual 15 mL screw cap centrifuge tubes containing 10 mL of 90% buffered acetone. The centrifuge tubes were capped and shaken to ensure complete submersion of the sample. Secured in a vial rack covered with aluminum foil, to reduce the potential for light exposure, the samples were stored in a refrigerator for 18 hours to allow for saturation and chlorophyll extraction.

In a dimly-lit laboratory, the samples were removed from the refrigerator and centrifuged for 20 min at 500 relative centrifugal force, using a properly balanced centrifuge. Prior to sample measurement, two cuvettes containing 90% buffered acetone were placed into a Shimadzu UV-

^k This measurement is not exact as the amount of water and magnesium carbonate used to create a saturated solution varies and does not affect sample integrity; supernatant solution was used to avoid solids.

^l To prevent acidification and conversion of chlorophyll to phaeophytin.

^m Deviations from USEPA (1997) include samples storage longer than 3.5 weeks and cutting sample filters to reduce acetone exposure for laboratory staff (as opposed to homogenization, an unnecessary risk to employee health).

1800 spectrophotometer to calibrate absorbance of the solvent at wavelengths 664 nm, 647 nm, 630 nm, and 750 nm. Supernatant from each sample was decanted into an individual cuvette and absorbance was measured at each wavelength. Each sample was treated with 80 μ L of 0.1 N hydrochloric acid for 90 seconds to convert the chlorophyll to phaeophytin, and absorbance was measured at wavelengths 665 nm and 750 nm. To minimize stray light and improve resolution, sample cuvettes were cleaned with a nonabrasive wipe prior to placement in the spectrophotometer.

Trichromatic equations were used to estimate Chl-*a*, Chl-*b*, and Chl-*c* concentrations, correcting for turbidity using the 750 nm absorbance value (APHA 2012, USEPA 1997). Chl-*a* concentrations were corrected when phaeophytin was detected. When Chl-*a* was not detected in a sample, the concentration is reported as the spectrophotometer estimated detection limit and the values for Chl-*b* or Chl-*c* were excluded. The 2025 estimated detection limit for Chl-*a* concentration was 0.23 mg/m².

Data Presentation

For each site and by year, mean densities of Chl-*a*, Chl-*b*, and Chl-*c* are presented in a table, Chl-*a* densities in a figure, and mean proportions of Chl-*a*, Chl-*b*, and Chl-*c* in a figure. Annual data from 2011 through 2025 are provided in Appendix A.

BENTHIC MACROINVERTEBRATE DENSITY AND COMMUNITY COMPOSITION

Sample Collection and Analysis

Six BMI samples were collected from each site using a Surber stream bottom sampler in riffles and runs with gravel and cobble substrate and varying flow velocities—habitats that support greater BMI densities and taxonomic richness (Barbour et al. 1999). Other habitat types (e.g., pools) were excluded to reduce variability.

The Surber stream bottom sampler has a 0.093 m² sample area and material is captured in a 200 mL cod end and constructed with 300 μ m mesh net. After securing the frame on the streambed with the opening facing upstream, rocks within the sample area were scrubbed with a bristle brush; gravel, sand, and silt were disturbed to about 10 cm depth to dislodge macroinvertebrates into the net. The net was rinsed in the stream to ensure all organisms drifted into the cod end, and each sample was transferred from the cod end to a labeled 500 mL plastic bottle. Samples were preserved in 95% ethanol at a ratio of three parts ethanol to one part sample. Samples exceeding the capacity of the cod end were discarded in the field to minimize detritus and substrate in samples and ensure proper sample preservation.

ADF&G Habitat biologists used an elutriator system and 500 μ m and 300 μ m sieves to sort macroinvertebrates from debris,ⁿ and identified organisms to the lowest practical taxonomic level^o using Merritt and Cummins (1996) and Stewart and Oswood (2006). Habitat biologists provided quality control by verifying macroinvertebrate identification of eight samples (more than 10% of samples).

ⁿ Claire Delbecq, Habitat Biologist, to Kate Kanouse, Southeast Regional Supervisor, ADF&G Habitat Section. Memorandum: Region 1 BMI Elutriation Methods; dated 2/4/2026.

^o Insects of the orders Ephemeroptera, Plecoptera, Trichoptera, and Diptera to genus, except nonbiting midges to family Chironomidae, and all others to class or order.

BMI density (per m²) for each sample was calculated by dividing the number of macroinvertebrates by 0.093 m²—the Surber sampling area. Mean density was estimated for each site by calculating the mean density among the six samples. Taxa richness is reported as the number of taxonomic groups identified to the lowest practical level; terrestrial^P organisms were excluded from all calculations.

Data Presentation

For each site and by year, a table is presented summarizing mean BMI and EPT density, total taxa, total EPT taxa, and percent EPT. Mean densities and community composition are presented in a figure. Annual data from 2011 through 2025 are provided in Appendix B.

ADULT SALMON COUNTS

Sample Collection

Based on historic counts conducted over the entire pink, chum, and coho salmon runs during the 2011–2021, the peak run for pink salmon typically occurs in statistical weeks 32–34 (early August) and for coho salmon in weeks 40–42 (early October). Therefore, we conduct foot surveys in each of these weeks. However, when high water limits our ability to survey we may survey before or after the target statistical weeks, or add an additional fourth survey day. In 2025, stream surveys for pink and chum salmon and carcasses up to the anadromous fish barriers were conducted by foot on Slate and Sherman Creeks and on Johnson Creek by aerial count via helicopter^Q. Foot surveys for coho salmon and carcasses up to the anadromous fish barriers were conducted on Slate and Johnson Creeks. To improve coho salmon observations, biologists conducted snorkel surveys and recorded underwater videos with a GoPro in large pools and around large woody debris—habitats where adult coho salmon tend to concentrate.

Each survey began at the stream mouth, proceeded upstream by established reach identifiers and concluded at the fish migration barrier. One biologist enumerated and recorded while the other biologist verified counts and provided bear protection. Approximate weather and streamflow conditions were recorded for each survey.

^P Including adult terrestrial insects of the orders Ephemeroptera, Plecoptera, Trichoptera, and Diptera.

^Q Aerial surveys are conducted on Lower Johnson Creek throughout the pink and chum salmon run due to brown bear density in the area and per Coeur (2022).

Data Presentation

For each site, the three closest counts to the peak of the run (typically statistical weeks 32–34 for pink and chum, and statistical weeks 40–42 for coho salmon) are averaged and presented in a table as an annual salmon abundance index by species for the 2011–2025 period. Compiled 2011–2025 pink salmon counts by statistical week are provided in Appendix C.

SEDIMENT COMPOSITION AND ELEMENT CONCENTRATIONS

Sample Collection and Analysis

Wearing latex gloves, three samples of submerged sand and silt were collected by hand grab at each site within actively flowing channels. For each sample, the top 4 cm of sediment was retained in three glass jars provided by the laboratory^f. To preserve sulfide in the sample jar designated for sulfide analyses, 5–10 mL of zinc acetate was added immediately after sample collection to fill the sample jars; all other samples were filled to the top with stream water to minimize air space.^s Samples were stored in a cooler with frozen icepacks during transport and in an ADF&G Douglas laboratory fridge until shipment to the ALS Environmental laboratory in Kelso, WA for analyses.

The samples were shipped in a cooler with frozen icepacks via overnight air freight, maintaining written chain of custody documentation. ALS Environmental measured particle size, total solids, total volatile solids, total sulfide, total organic carbon, and total concentrations of Ag, Al, As, Cd, Cr, Cu, Hg, Ni, Pb, Se, and Zn on a dry-weight basis (Table 2).^t The laboratory provided Tier IV quality assurance and quality control information, including results for matrix spikes, sample blanks, and sample duplicates.

Table 2.–Sediment tests, analytes, and methods used in 2025.

Test Description	Analyte	Method
Standard test method for particle-size analysis of soils	Particle size determination	ASTM D422M
Puget Sound Estuary Program sediment total organic carbon	Total organic carbon	PSEP TOC
Total solids on liquids, modified for solids	Total solids	EPA 160.3 Modified
Puget Sound Estuary Program sediment sulfide	Total sulfide	PSEP Sulfide
Total volatile solids, modified for solids	Total volatile solids	EPA 160.4 Modified
Mercury in solid or semisolid waste	Hg	EPA 7471B
Determination of trace elements in waters and wastes by ICP/MS	Ag, Al, As, Cd, Cr, Cu, Ni, Pb, Se, Zn	EPA 6020B

Data Presentation

For each site and by year, all sediment element concentration data are presented in a figure, including the mean values. When duplicate data are provided by the lab, we report the mean values.

^r In 2015, sieving sediments during collection was discontinued to avoid sample bias per ALS Environmental staff recommendation.

^s Per laboratory staff instruction (S. Samy, Kelso Laboratory Senior Project Manager, ALS Environmental, Kelso, WA, personal communication).

^t The AECOM Environmental Toxicology lab in Fort Collins, CO completed the 2011–2013 sediment sample analyses; since 2014, the ALS Environmental lab in Kelso, WA has completed the sediment sample analyses.

Sediment element concentrations undetected at the method reporting limit are illustrated as an empty circle (◦) and as a solid circle (•) for measured element concentrations.

The data are compared with the threshold effects concentrations (TEC) and the probable effects concentrations (PEC) for inorganics in freshwater sediment guidelines developed by the National Oceanic and Atmospheric Administration (Buchman 2008). The guidelines are based on results of controlled laboratory bioassays, where element concentrations below the TECs rarely affect aquatic life survival and growth, and element concentrations above the PECs can affect aquatic life survival and growth.

Annual data from 2011–2025 and the 2025 laboratory report are provided in Appendix D.

RESULTS

WEATHER AND STREAMFLOW DATA

The National Weather Service (2026) reported the Juneau area received 22.4 cm precipitation in March–April (2.3 cm above normal) and experienced an average temperature 2.4 °F above normal prior to spring macroinvertebrate sampling. Prior to summer periphyton sampling in late July, the Juneau area received 21.6 cm of rain in June and July (1.2 cm below normal) and an average temperature of 55.8 °F, which is the same value as the long-term average.

SLATE CREEK

Lower Slate Creek

Periphyton: Chlorophyll Density and Composition

The 2025 Lower Slate Creek SP1 estimate mean Chl-*a* density was 6.05 mg/m², within the upper range of the range previously observed (Table 3; Figure 18). The samples contained about 90% Chl-*a*, 2% Chl-*b*, and 8% Chl-*c*, consistent with composition observed in previous years (Figure 19).

Table 3.–Lower Slate Creek SP1 mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl- <i>a</i> (mg/m ²)	5.15	2.31	12.59	3.97	2.16	5.26	2.30	4.20	33.71	1.22	2.00	4.87	4.81	1.08	6.05
Chl- <i>b</i> (mg/m ²)	0.43	0.05	0.00	0.85	0.10	0.21	0.23	0.04	0.00	0.11	0.04	0.09	0.06	0.01	0.14
Chl- <i>c</i> (mg/m ²)	0.26	0.18	1.64	0.30	0.21	0.62	0.23	0.63	6.49	0.06	0.32	0.62	0.64	0.16	0.55

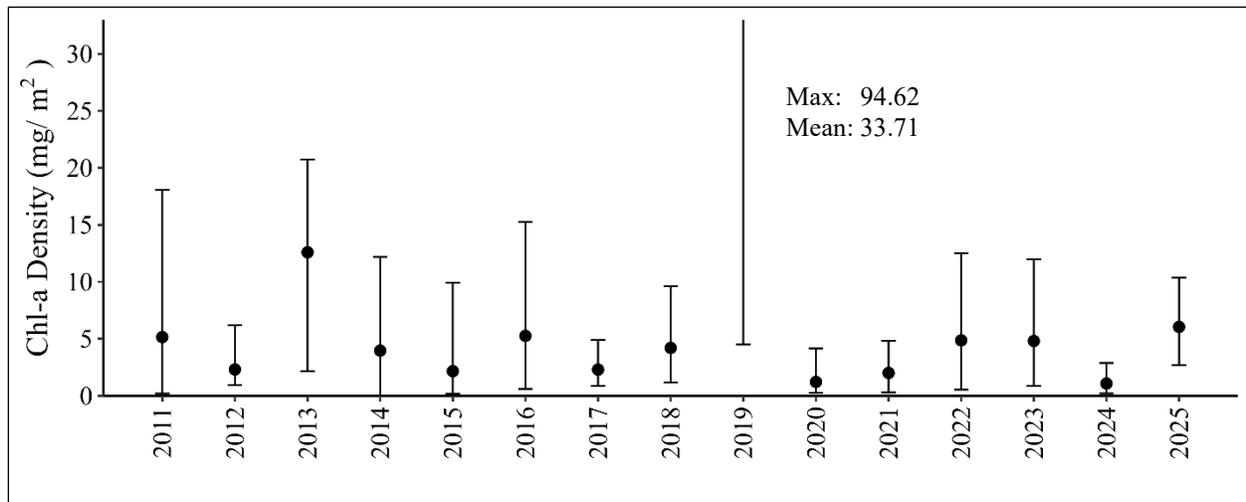


Figure 18.–Lower Slate Creek SP1 mean chlorophyll a densities, 2011–2025.

Note: Minimum, mean, and maximum values shown.

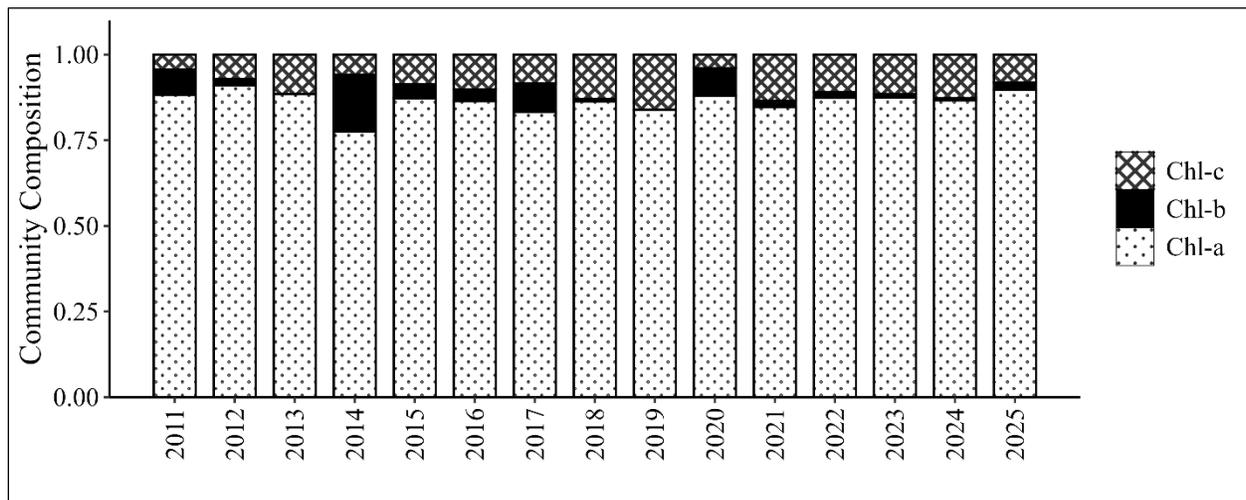


Figure 19.–Lower Slate Creek SP1 mean proportions of chlorophylls a, b, and c, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 Lower Slate Creek SP1 BMI estimate mean density is 2,588 BMI/m² and we identified 24 taxa, within the middle range of BMI densities and taxa observed 2011–2024 (Table 4; Figure 20 Figure 21). We estimate mean EPT density at 455 EPT/m², at the lower end of the range observed, accounting for 18% of the samples. Dominant taxa were Diptera of the family Chironomidae (66%) and worms of the subclass *Oligochaeta* (12%).

Table 4.–Lower Slate Creek SP1BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	288	1,199	1,316	786	818	509	654	217	532	229
Mean BMI density (per m ²)	2,057	3,154	2,581	4,136	3,407	3,394	1,308	482	934	1,208
Number of EPT Taxa	13	17	16	17	13	11	13	9	9	11
Number of BMI Taxa	29	32	27	32	26	24	27	17	18	24
% EPT	14	38	51	19	24	15	50	45	57	19

Table 4.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	208	312	744	636	455
Mean BMI density (per m ²)	425	810	955	1,434	2,588
Number of EPT Taxa	8	10	13	15	10
Number of BMI Taxa	17	15	20	26	24
% EPT	49	38	78	44	18

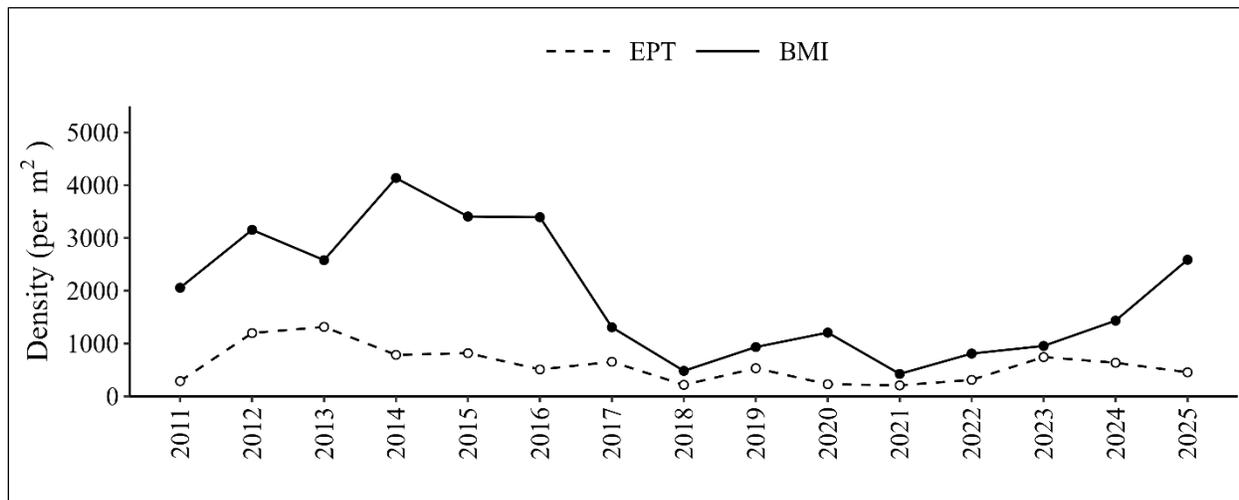


Figure 20.–Lower Slate Creek SP1 mean BMI and EPT densities, 2011–2025.

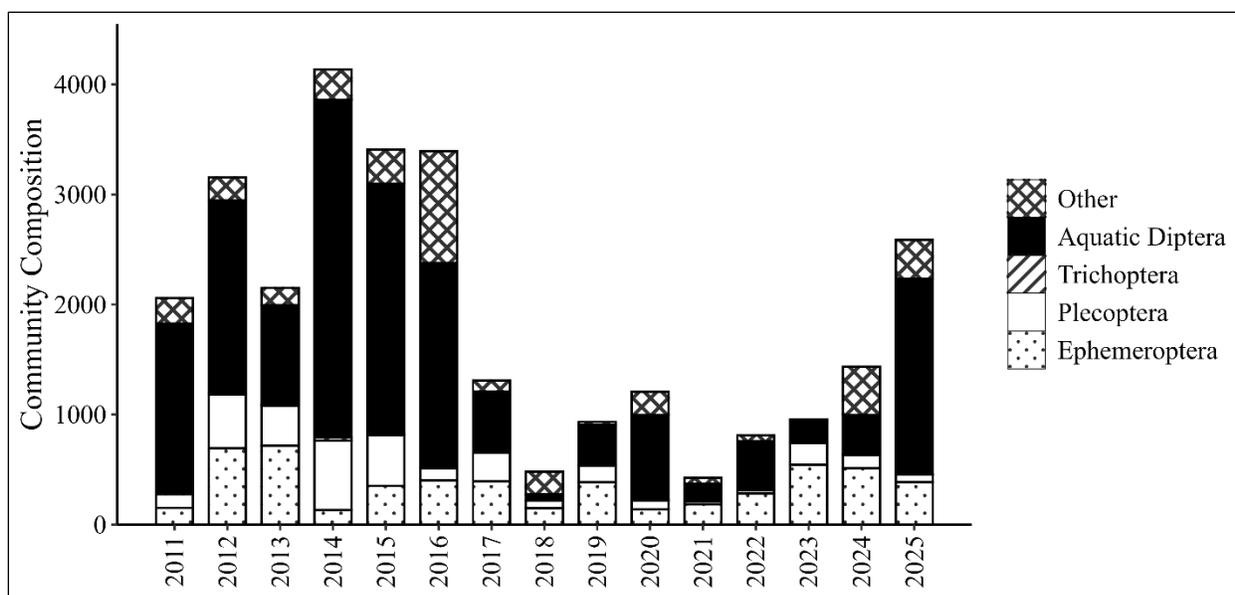


Figure 21.–Lower Slate Creek SP1 BMI composition, 2011–2025.

Adult Salmon Counts

In 2025, the mean weekly salmon abundance index counts for Lower slate Creek were 628 pink salmon, 13 chum salmon, and 1 coho salmon (Table 5). Full weekly count data are in Appendix C.

Table 5.–Lower Slate Creek mean weekly salmon abundance index, 2011–2025.

Year	Pink Salmon	Chum Salmon	Coho Salmon
2011	842	26	0
2012	2196	0	0
2013	889	0	9
2014	13	0	2
2015	1698	4	0
2016	22	8	1
2017	1227	0	1
2018	1	0	0
2019	70	0	0
2020	4	0	1
2021	737	0	0
2022	4	0	0
2023	1212	0	0
2024	2	0	0
2025	628	13	1

Sediment Element Concentrations

The 2025 Lower Slate Creek SP1 sediment samples contained As, Cd, Cu, Ni, and Zn element concentrations near or above the TEC freshwater sediment toxicity guidelines, as in most previous years (Figure 22). All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines (if available), and within ranges previously observed 2011–2024.

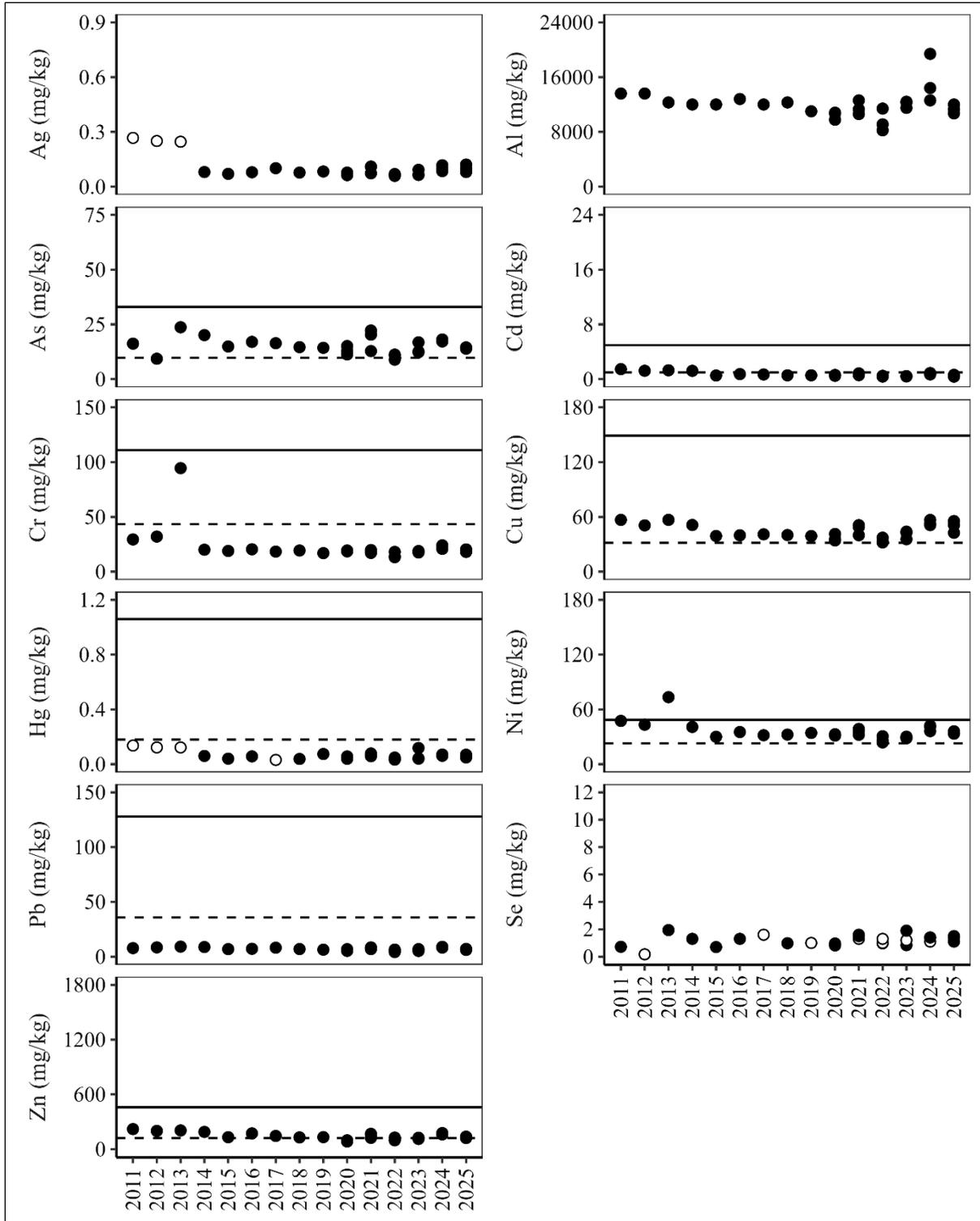


Figure 22.—Lower Slate Creek SP1 sediment element concentrations, 2011–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

West Fork Slate Creek

Periphyton: Chlorophyll Density and Composition

The 2025 West Fork Slate Creek estimate mean Chl-*a* density was 6.25 mg/m², at the upper end of the range observed (Table 6; Figure 23). The samples contained about 88% Chl-*a*, 0% Chl-*b*, and 12% Chl-*c*, similar to previous years (Figure 24).

Table 6.–West Fork Slate Creek mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl- <i>a</i> (mg/m ²)	3.92	1.01	4.22	0.77	0.92	4.93	4.96	3.84	2.95	1.08	15.66	3.58	16.08	0.42	6.25
Chl- <i>b</i> (mg/m ²)	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00
Chl- <i>c</i> (mg/m ²)	0.27	0.10	0.61	0.06	0.06	0.66	0.85	0.74	0.46	0.15	2.76	0.42	2.25	0.03	0.84

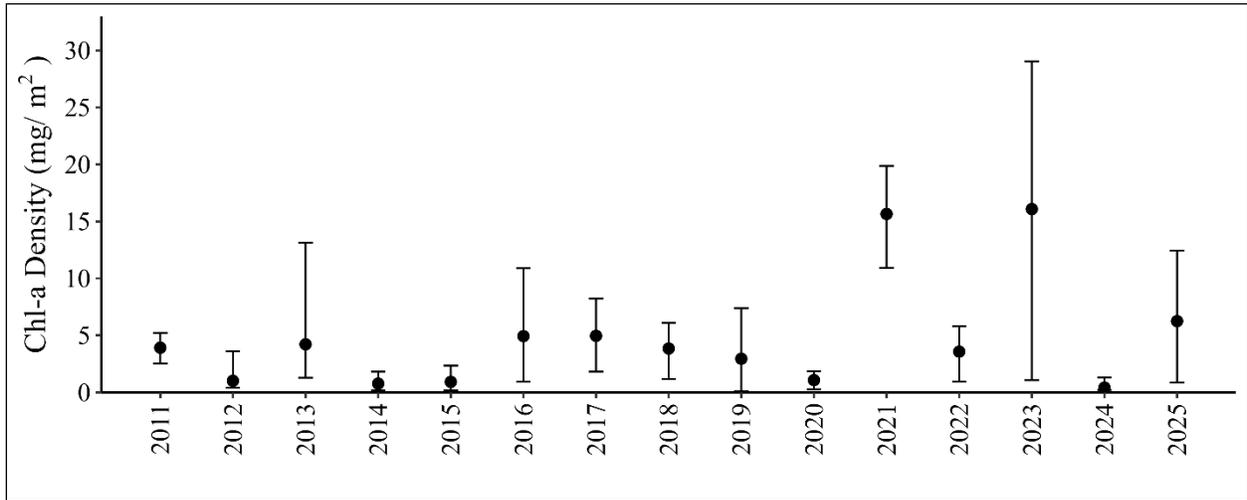


Figure 23.–West Fork Slate Creek mean chlorophyll *a* densities, 2011–2025.

Note: Minimum, mean, and maximum values.

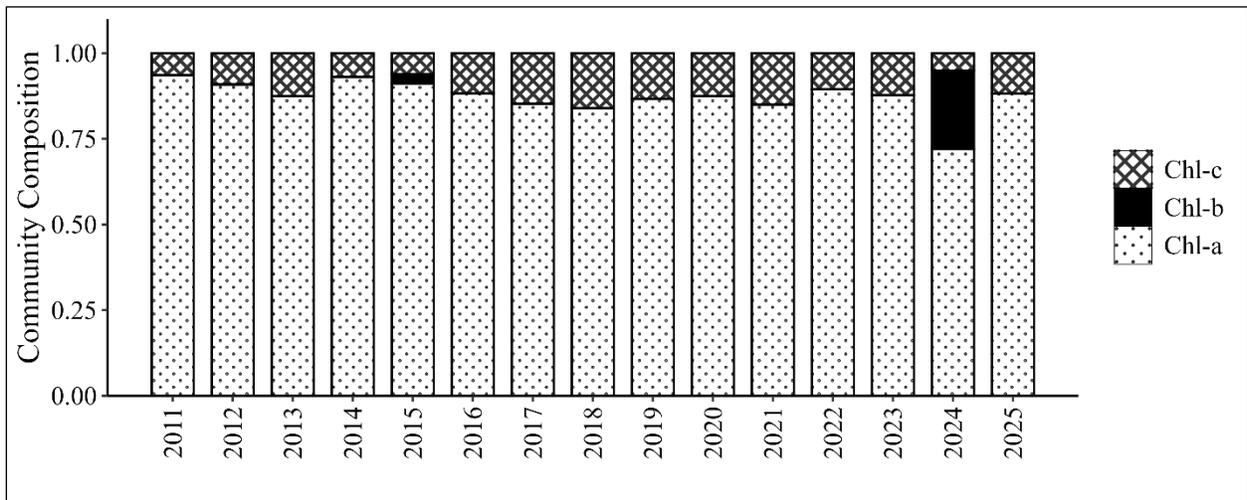


Figure 24.–West Fork Slate Creek mean proportions of chlorophylls *a*, *b*, and *c*, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 West Fork Slate Creek BMI estimate mean density is 2,681 BMI/m² and we identified 26 taxa, within the middle range of BMI densities and taxa observed 2011–2024 (Table 7; Figure 25, Figure 26). We estimate mean EPT density at 1,996 EPT/m², also within the middle range observed and accounting for 74% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (48%) and Diptera of the family Chironomidae (20%).

Table 7.–West Fork Slate Creek BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	402	1,455	2,202	691	2,160	1,132	726	275	1,182	1,060
Mean BMI density (per m ²)	502	1,819	2,446	973	2,634	1,470	885	328	1,299	1,358
Number of EPT Taxa	11	21	18	17	16	15	13	12	11	12
Number of BMI Taxa	21	31	28	29	28	25	21	18	16	18
% EPT	80	80	90	71	82	77	82	84	91	78

Table 7.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	668	1,233	1,833	1,392	1,996
Mean BMI density (per m ²)	719	1,437	1,984	1,814	2,681
Number of EPT Taxa	14	15	16	14	15
Number of BMI Taxa	17	22	21	22	26
% EPT	93	86	92	77	74

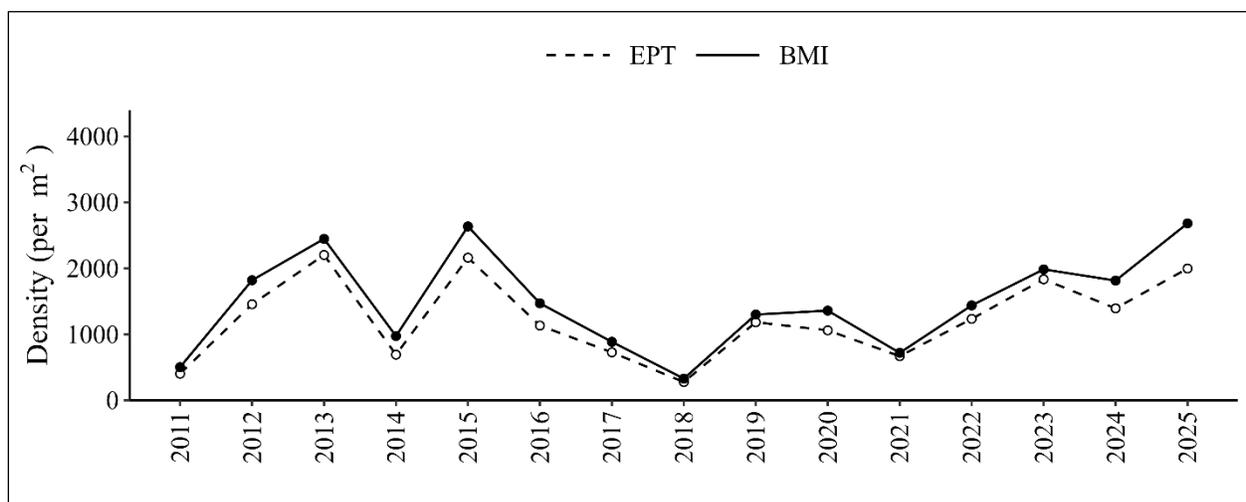


Figure 25.–West Fork Slate Creek mean BMI and EPT densities, 2011–2025.

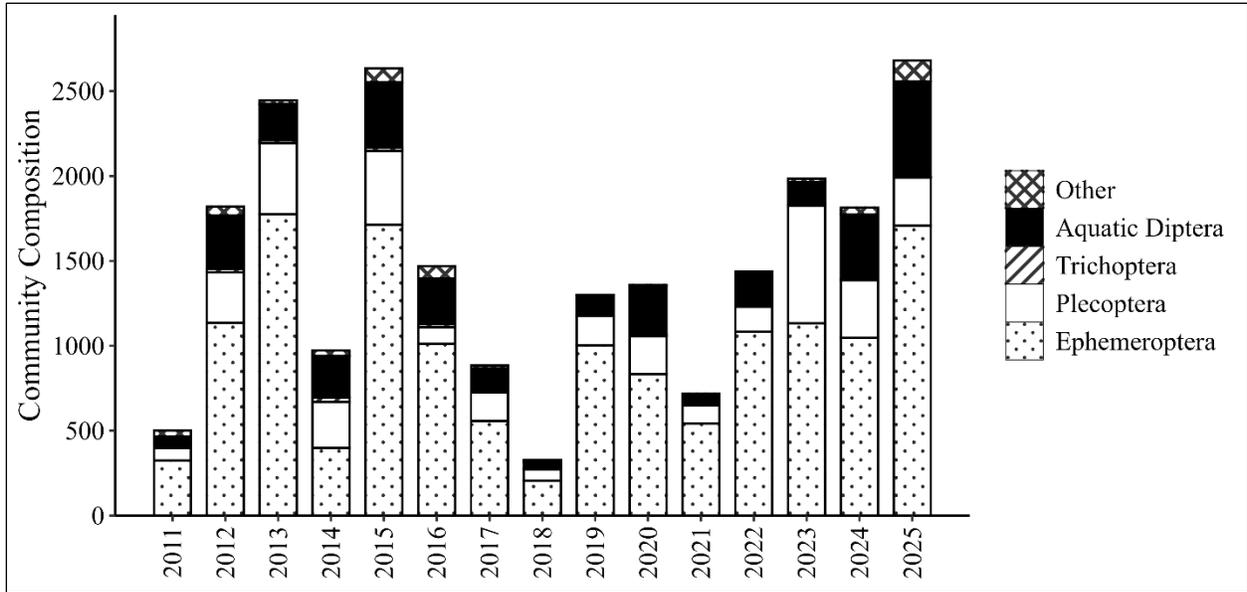


Figure 26.–West Fork Slate Creek BMI composition, 2011–2025.

Sediment Element Concentrations

We collected sediment for the second year at West Fork Slate Creek and found the samples contained Ni concentrations near the PEC freshwater sediment toxicity guideline (Figure 27); As, Cd, Cu, and Zn concentrations were near or above the TEC. All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines.

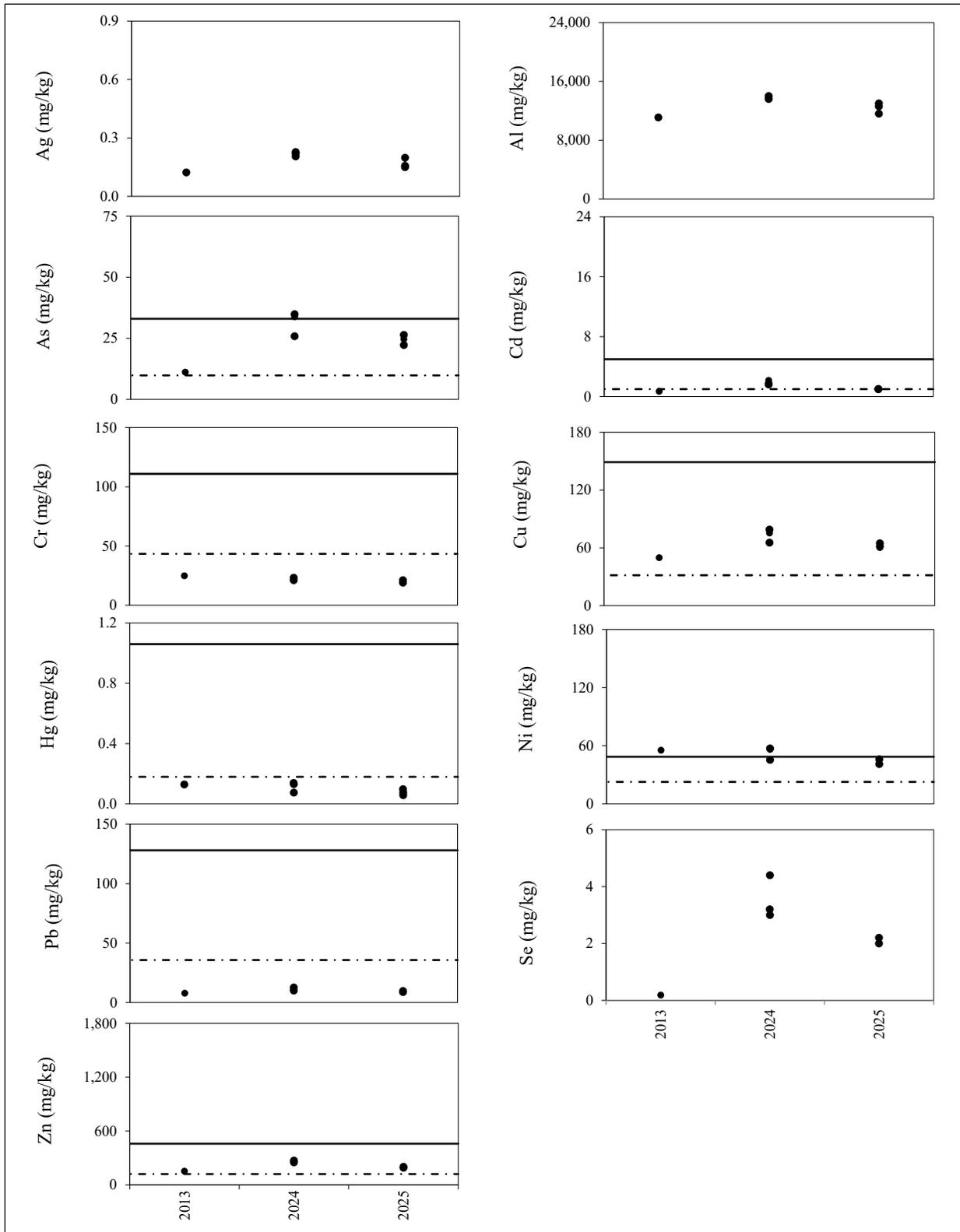


Figure 27.—West Fork Slate Creek sediment element concentrations, 2013, 2024–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

East Fork Slate Creek

Periphyton: Chlorophyll Density and Composition

The 2025 East Fork Slate Creek periphyton samples were collected, but not analyzed due to laboratory handling error that occurred in October and new samples could not be taken (Table 8; Figure 28, 29).

Table 8.—East Fork Slate Creek mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl-a (mg/m ²)	8.84	5.08	2.28	0.27	1.56	1.21	0.64	1.67	3.51	1.39	0.8	1.46	2.47	2.15	ND
Chl-b (mg/m ²)	1.56	0.57	0.06	0.02	0	0	0	0	0.01	0.01	0.02	0.06	0.08	0	ND
Chl-c (mg/m ²)	0.24	0.18	0.2	0.03	0.15	0.15	0.06	0.16	0.34	0.13	0.13	0.11	0.25	0.21	ND

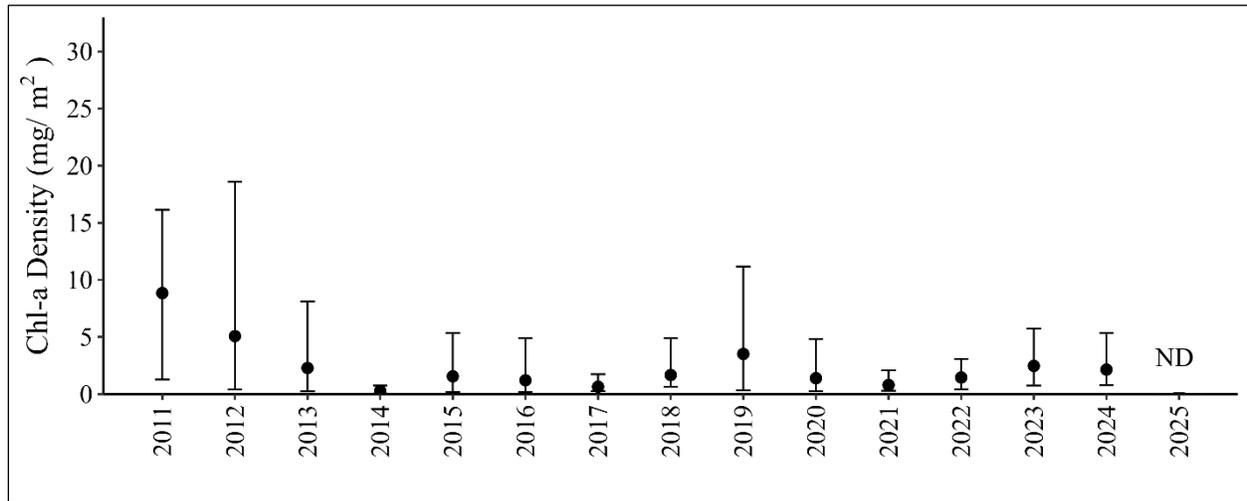


Figure 28.—East Fork Slate Creek mean chlorophyll *a* densities, 2011–2025.

Note: Minimum, mean, and maximum values shown.

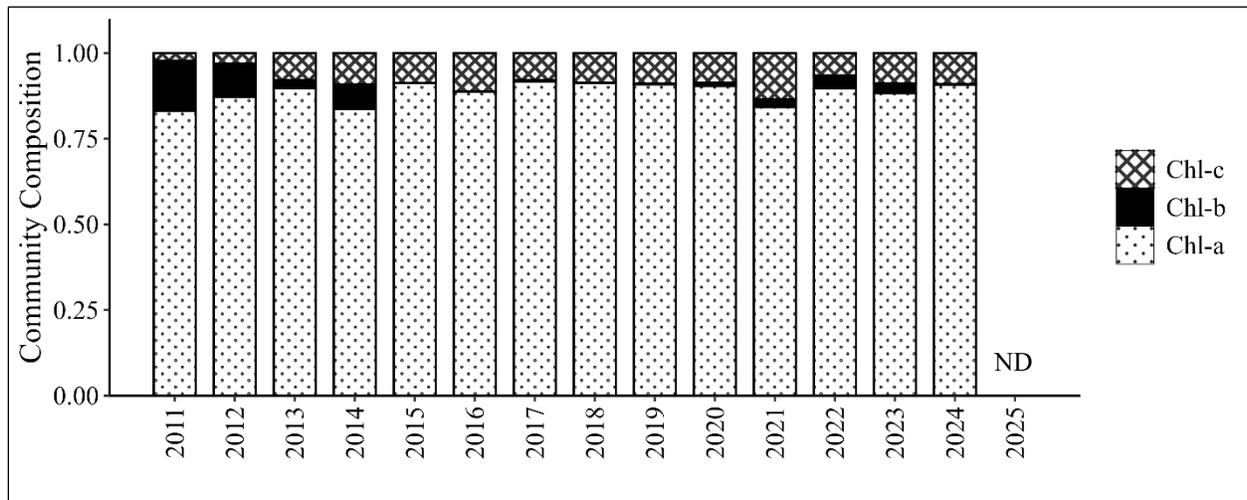


Figure 29.—East Fork Slate Creek mean proportions of chlorophylls *a*, *b*, and *c*, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 East Fork Slate Creek BMI estimate mean density is 10,088 BMI/m² and we identified 29 taxa, the highest BMI density observed 2011–2024 (Table 9; Figure 30, 31). We estimate mean EPT density at 1,016 EPT/m², moderate compared to previous observations, accounting for 10% of the samples. Dominant taxa were bivalves of the genus *Pisidium* (47%) and Diptera of the family Chironomidae (23%), as in previous years.

Table 9.–East Fork Slate Creek BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	891	1,066	188	41	694	561	746	287	696	715
Mean BMI density (per m ²)	4,688	4,633	9,407	2,048	3,854	2,002	6,783	3,588	3,866	5,496
Number of EPT Taxa	15	17	17	9	16	11	13	15	15	14
Number of BMI Taxa	27	33	33	24	28	21	27	26	25	26
% EPT	19	23	2	2	18	28	11	8	18	13

Table 9.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	344	400	828	1849	1016
Mean BMI density (per m ²)	3,437	3,093	6,654	8,659	10,088
Number of EPT Taxa	14	13	15	17	12
Number of BMI Taxa	23	25	29	34	29
% EPT	10	13	12	21	10

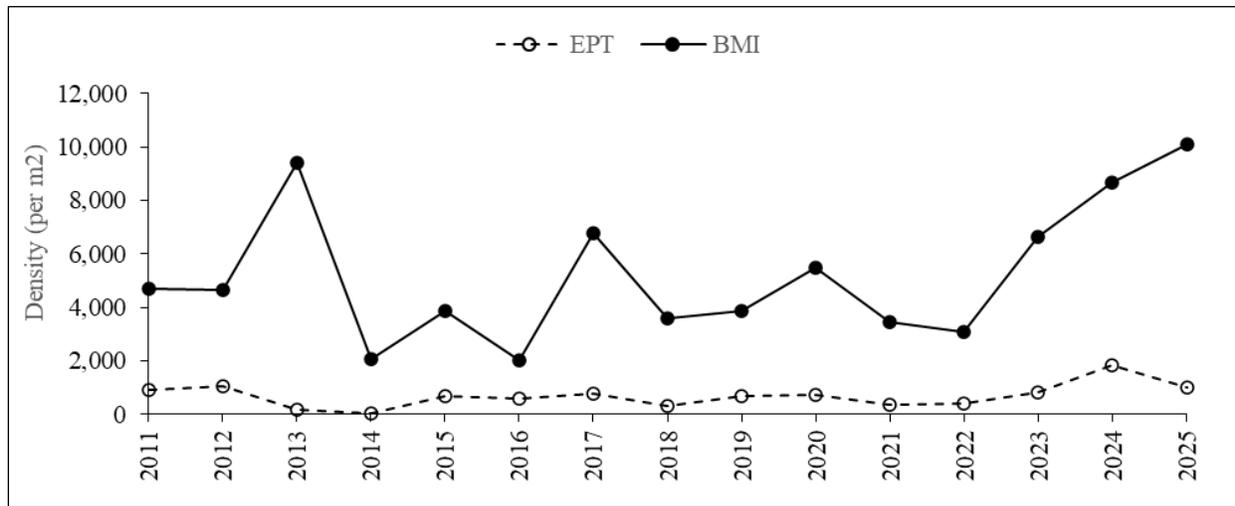


Figure 30.–East Fork Slate Creek mean BMI and EPT densities, 2011–2025.

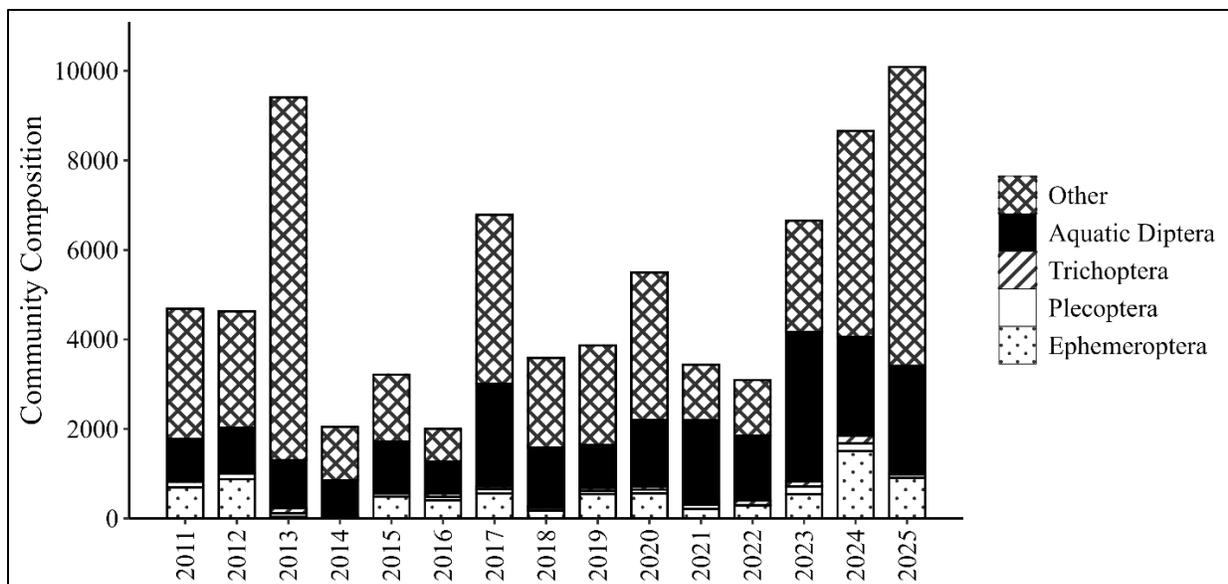


Figure 31.—East Fork Slate Creek BMI community composition, 2011–2025.

Sediment Element Concentrations

Of the 2025 East Fork Slate Creek sediment samples, one or more of the three samples contained concentrations of As and Ni above the PEC freshwater sediment toxicity guidelines (Figure 32). Cd, Cu, and Zn concentrations were above the TEC, similar to previous years. The remaining sample concentrations were below the guidelines and consistent with a trend of lower elements concentrations beginning in 2020.

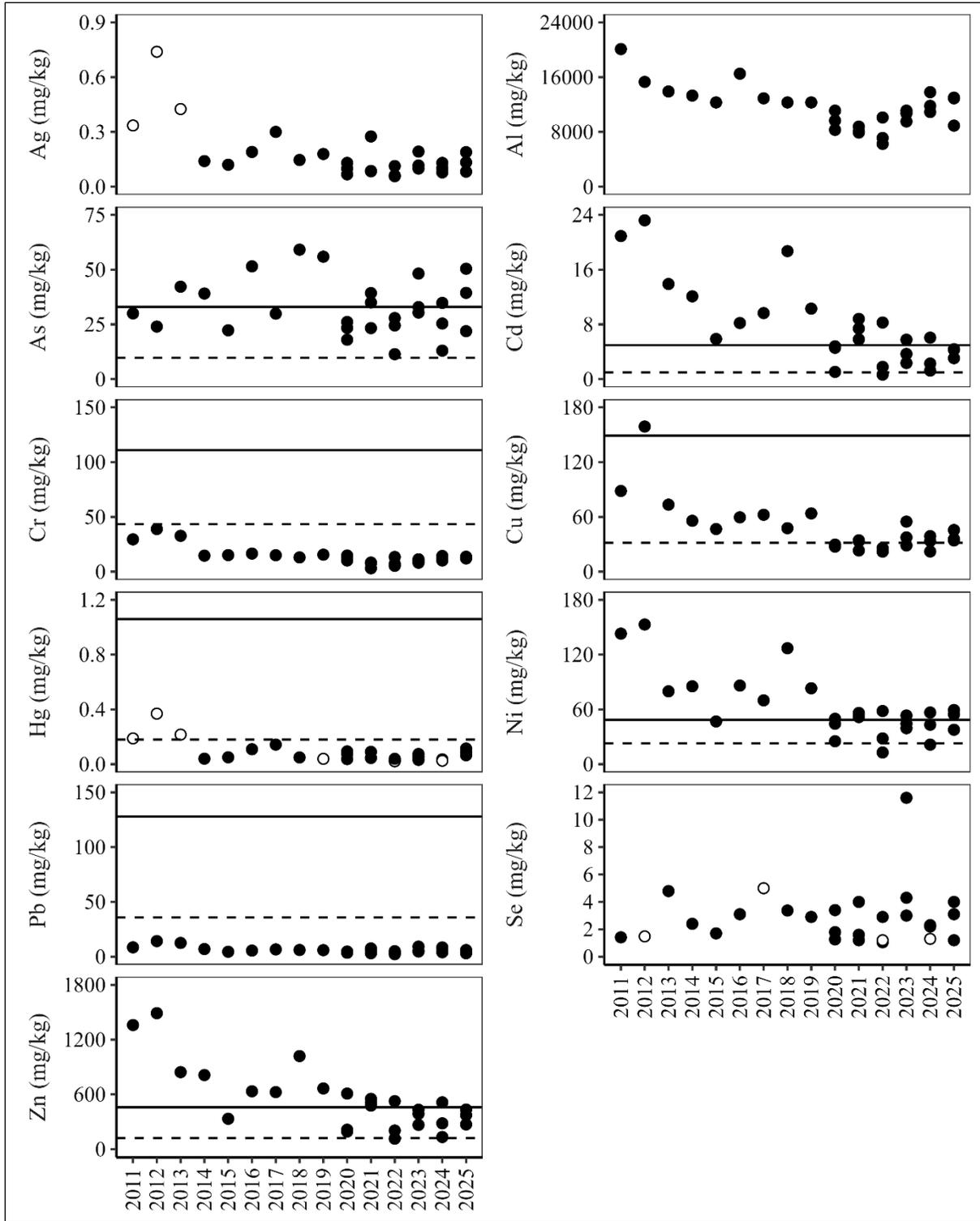


Figure 32.—East Fork Slate Creek sediment element concentrations, 2011–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

Upper Slate Creek Sample Point 1

Periphyton: Chlorophyll Density and Composition

The 2025 Upper Slate Creek SP1 estimate mean Chl-*a* density was 4.51 mg/m², at the upper end of the range previously observed (Table 10; Figure 33). The samples contained about 93% Chl-*a*, 0% Chl-*b*, and 7% Chl-*c*, consistent with composition observed in previous years (Figure 34).

Table 10.—Upper Slate Creek SP1 mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl- <i>a</i> (mg/m ²)	0.76	1.26	2.12	1.09	0.63	3.86	0.83	2.57	7.47	1.13	2.89	1.47	5.11	0.74	4.51
Chl- <i>b</i> (mg/m ²)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Chl- <i>c</i> (mg/m ²)	0.05	0.07	0.13	0.06	0.09	0.42	0.04	0.36	0.60	0.06	0.46	0.10	0.47	0.05	0.36

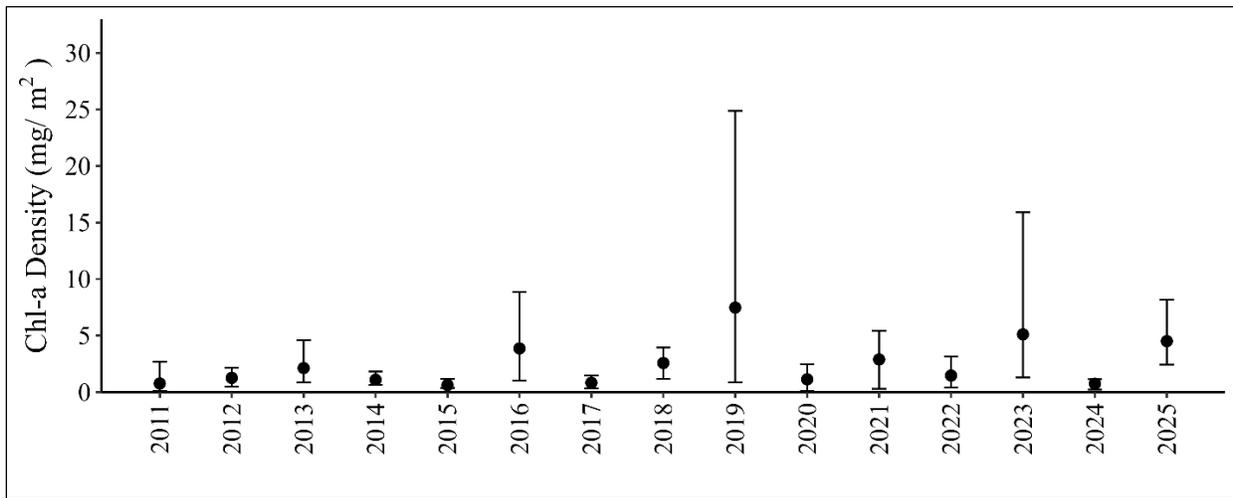


Figure 33.—Upper Slate Creek SP1 mean chlorophyll *a* densities, 2011–2025.

Note: Minimum, mean, and maximum values shown.

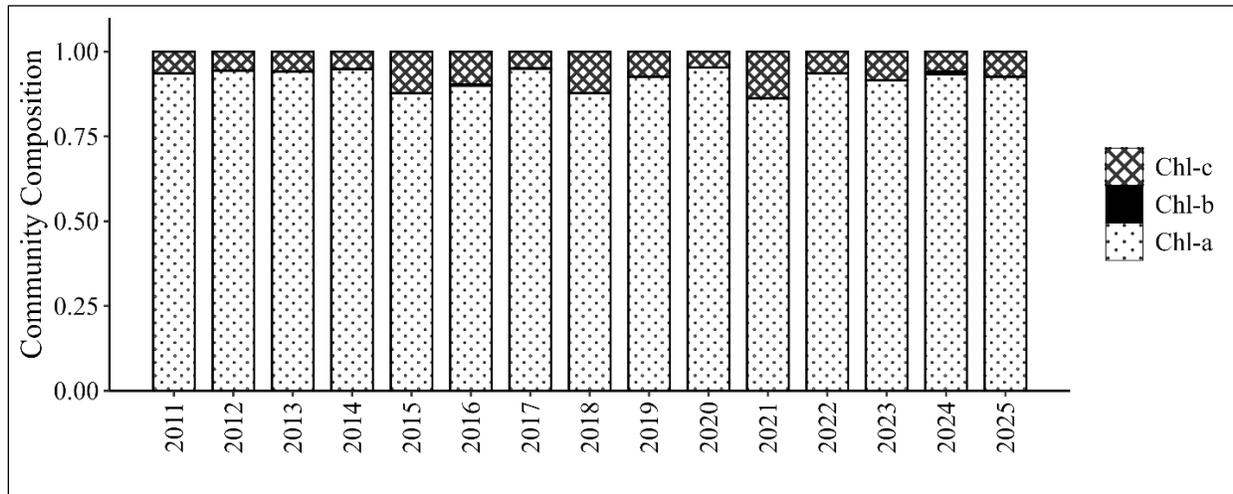


Figure 34.—Upper Slate Creek SP1 mean proportions of chlorophylls *a*, *b*, and *c*, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 Upper Slate Creek SP1 BMI estimate mean density is 3,645 BMI/m² and we identified 30 taxa, within the upper range of BMI density observed 2011–2024 (Table 11; Figure 35, 36). We estimate mean EPT density at 2,659 EPT/m², the highest observed, accounting for 73% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (17%) and genus *Cinygmula* (16%).

Table 11.–Upper Slate Creek SP1 BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	1,589	1,534	2,074	1,969	2,568	1,631	1,237	1,053	1,357	691
Mean BMI density (per m ²)	2,523	2,256	2,880	3,125	3,776	2,398	2,029	1,548	1,634	973
Number of EPT Taxa	18	21	20	20	19	15	19	18	18	15
Number of BMI Taxa	33	39	34	36	31	28	30	31	24	25
% EPT	63	68	72	63	68	68	61	68	83	71

Table 11.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	1,141	860	2,079	2,939	2,659
Mean BMI density (per m ²)	1,409	1,246	2,412	3,586	3,645
Number of EPT Taxa	18	20	18	21	18
Number of BMI Taxa	28	29	27	36	30
% EPT	81	69	86	82	73

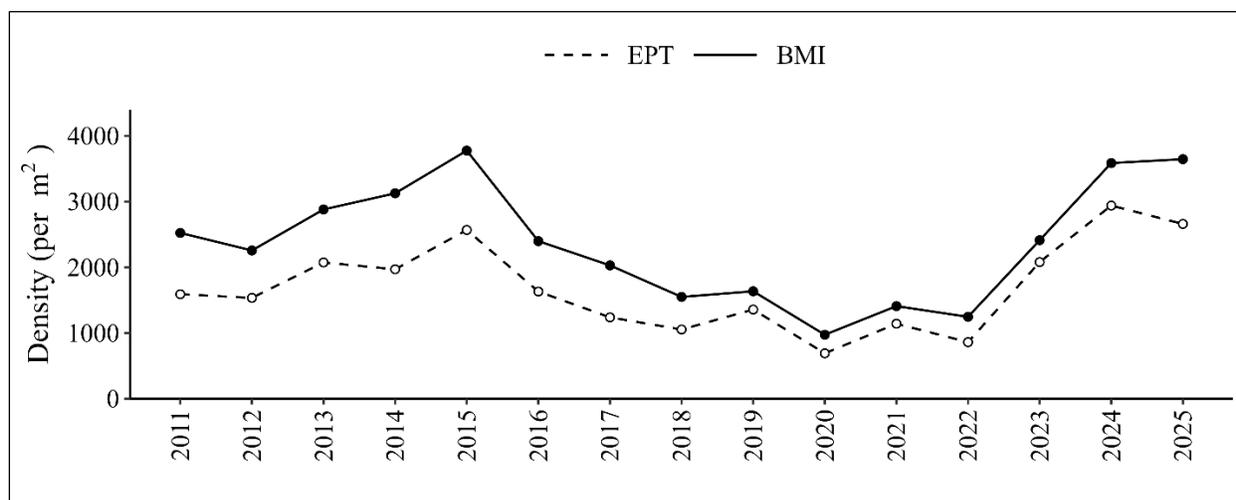


Figure 35.–Upper Slate Creek SP1 mean BMI and EPT densities, 2011–2025.

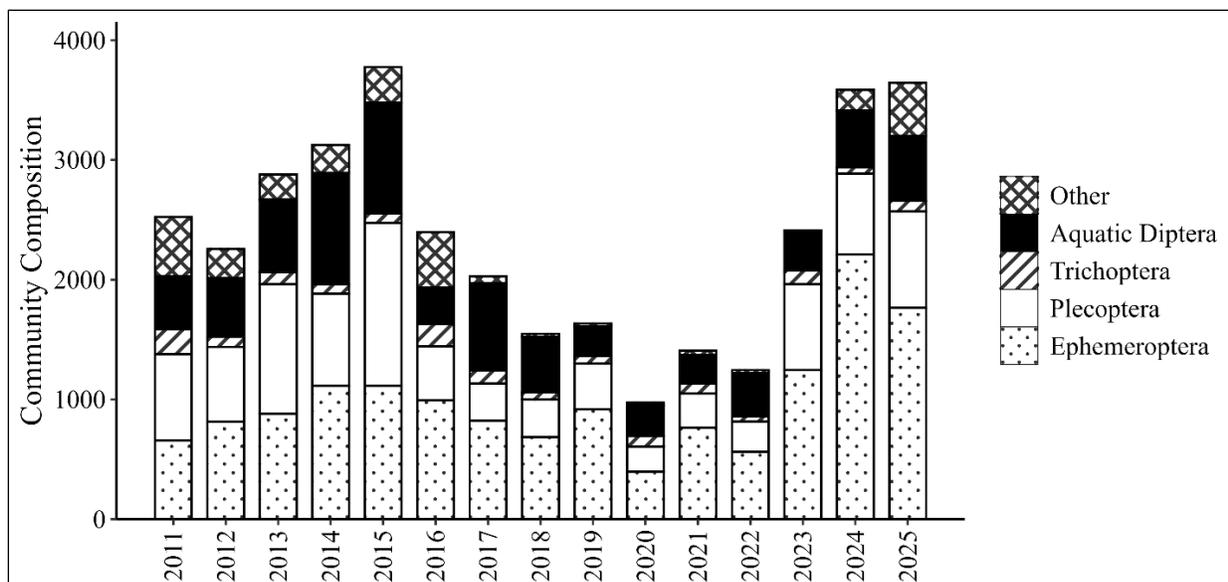


Figure 36.—Upper Slate Creek SP1 BMI community composition, 2011–2025.

Sediment Element Concentrations

The 2025 Upper Slate Creek SP1 sediment samples contained concentrations of Ni above the PEC freshwater sediment toxicity guideline (Figure 37); As, Cd, Cr, Cu, and Zn concentrations were near or above the TEC as in previous years. All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines, and within ranges previously observed 2011–2024.

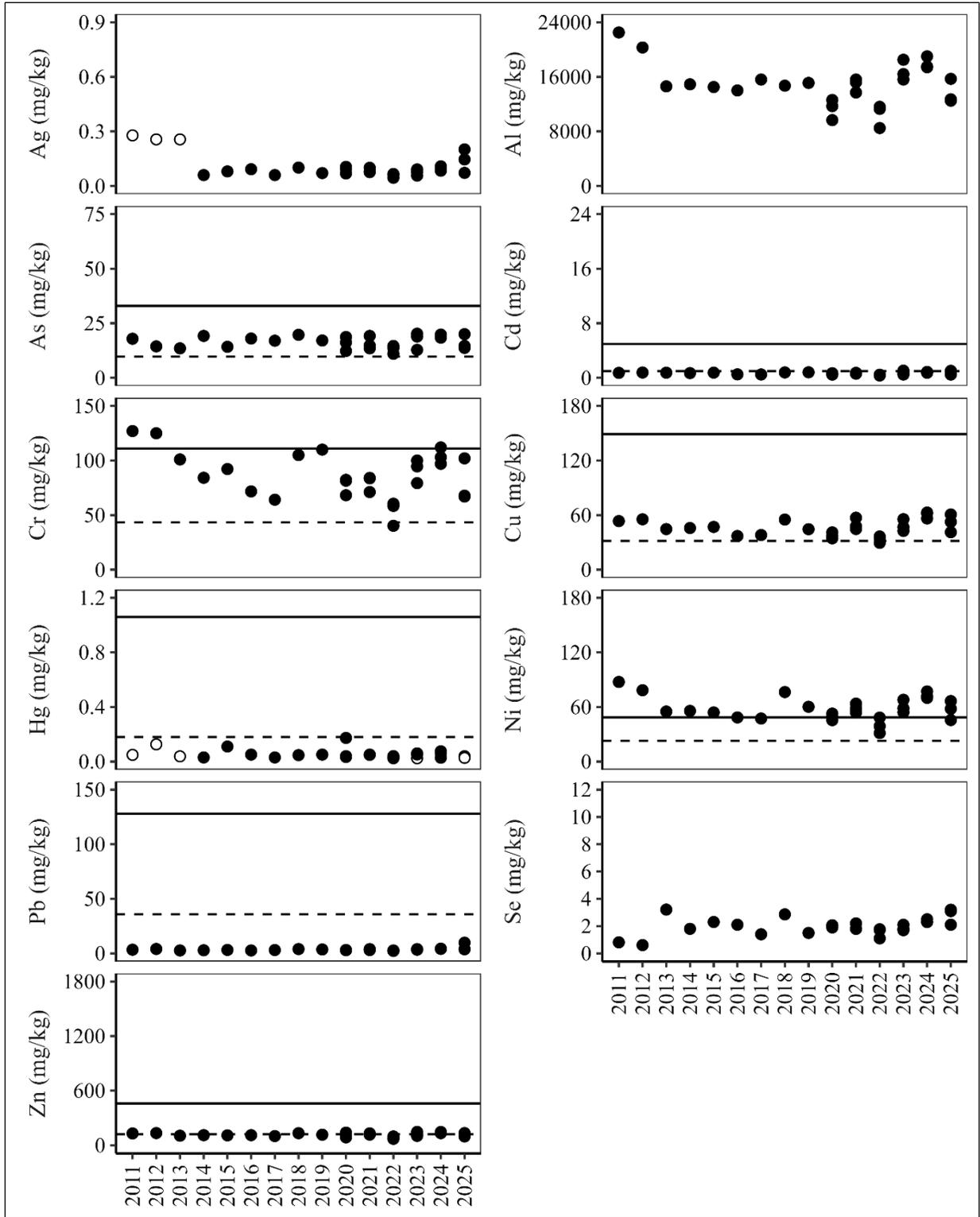


Figure 37.—Upper Slate Creek SP1 sediment element concentrations, 2011–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

Upper Slate Creek Sample Point 2

Periphyton: Chlorophyll Density and Composition

The 2025 Upper Slate Creek SP2 estimate mean Chl-*a* density was 5.07 mg/m², similar to SP1 results, and samples contained about 92% Chl-*a*, 7% Chl-*b*, and 1% Chl-*c*, and (Table 12; Figures 38, 39).

Table 12.—Upper Slate Creek mean chlorophylls *a*, *b*, and *c* densities, 2024–2025.

Sample Date	2024	2025
Chl- <i>a</i> (mg/m ²)	1.74	5.07
Chl- <i>b</i> (mg/m ²)	0.00	0.05
Chl- <i>c</i> (mg/m ²)	0.10	0.37



Figure 38.—Upper Slate Creek SP2 mean chlorophyll *a* densities, 2024–2025.

Note: Minimum, mean, and maximum values shown.

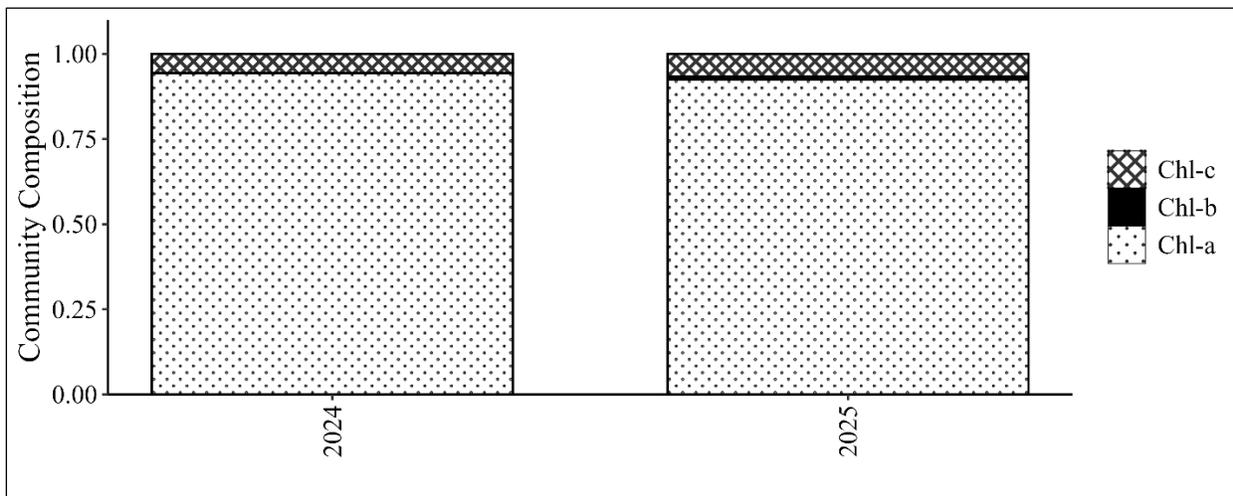


Figure 39.—Upper Slate Creek SP2 mean proportions of chlorophylls *a*, *b*, and *c*, 2024–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 Upper Slate Creek SP2 BMI mean density estimate is 3,534 BMI/m², similar to SP1

results (3,645 BMI/m²), and we identified 31 taxa (Table 13; Figures 40, 41). We estimate mean EPT density at 2,862 EPT/m² accounting for 81% of the samples, slightly higher than at SP1 (73%). Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (24%) and Ephemeroptera of the genus *Cinygmula* (14%).

Table 13.—Upper Slate Creek SP2 BMI data summaries, 2024–2025.

	2024	2025
Mean EPT density (per m ²)	3,753	2,862
Mean BMI density (per m ²)	4,609	3,534
Number of EPT Taxa	19	19
Number of BMI Taxa	30	31
% EPT	81	81

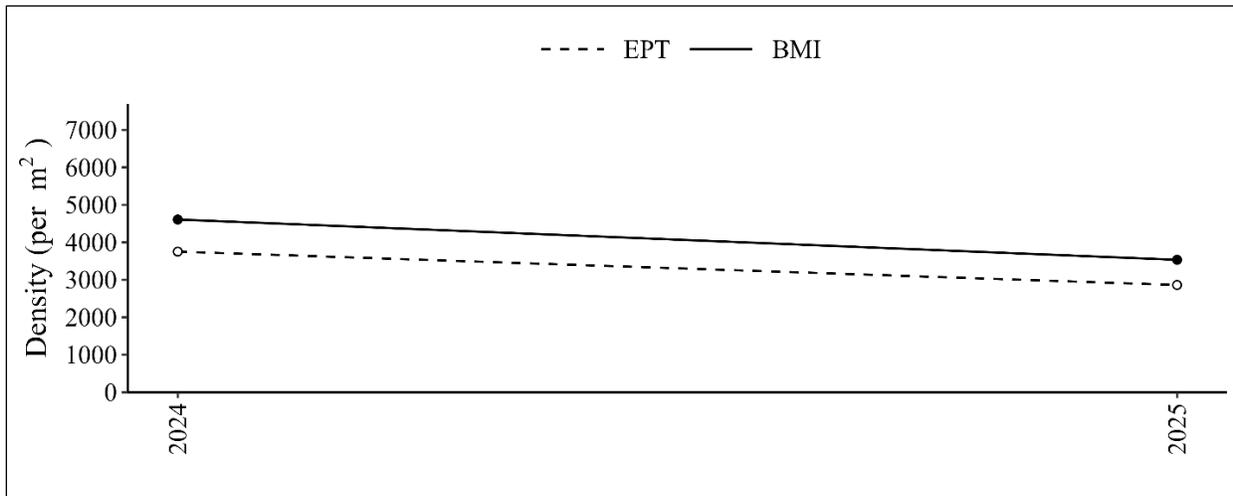


Figure 40.—Upper Slate Creek SP2 mean BMI and EPT densities, 2024–2025.

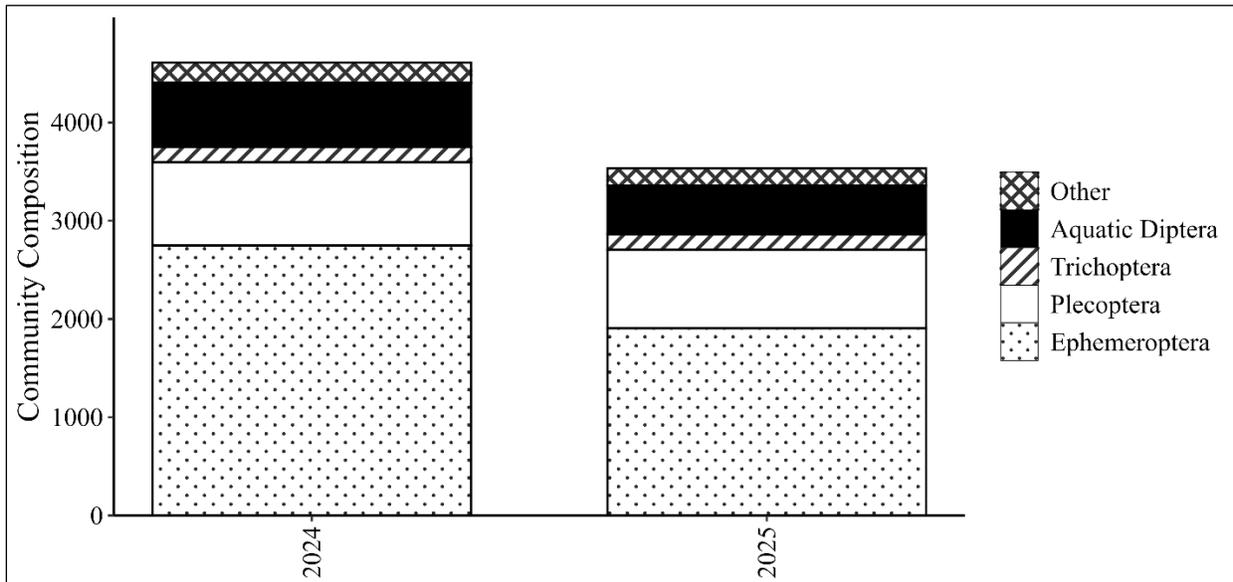


Figure 41.—Upper Slate Creek SP2 BMI community composition, 2024–2025.

Sediment Element Concentrations

We collected sediment for the second year at Upper Slate Creek SP2 and found the sediment samples contained Cr and Ni concentrations above the PEC freshwater sediment toxicity guidelines (Figure 42); As, and Cu concentrations were near or above the TEC, similar to the Upper Slate Creek SP1 results. All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines.

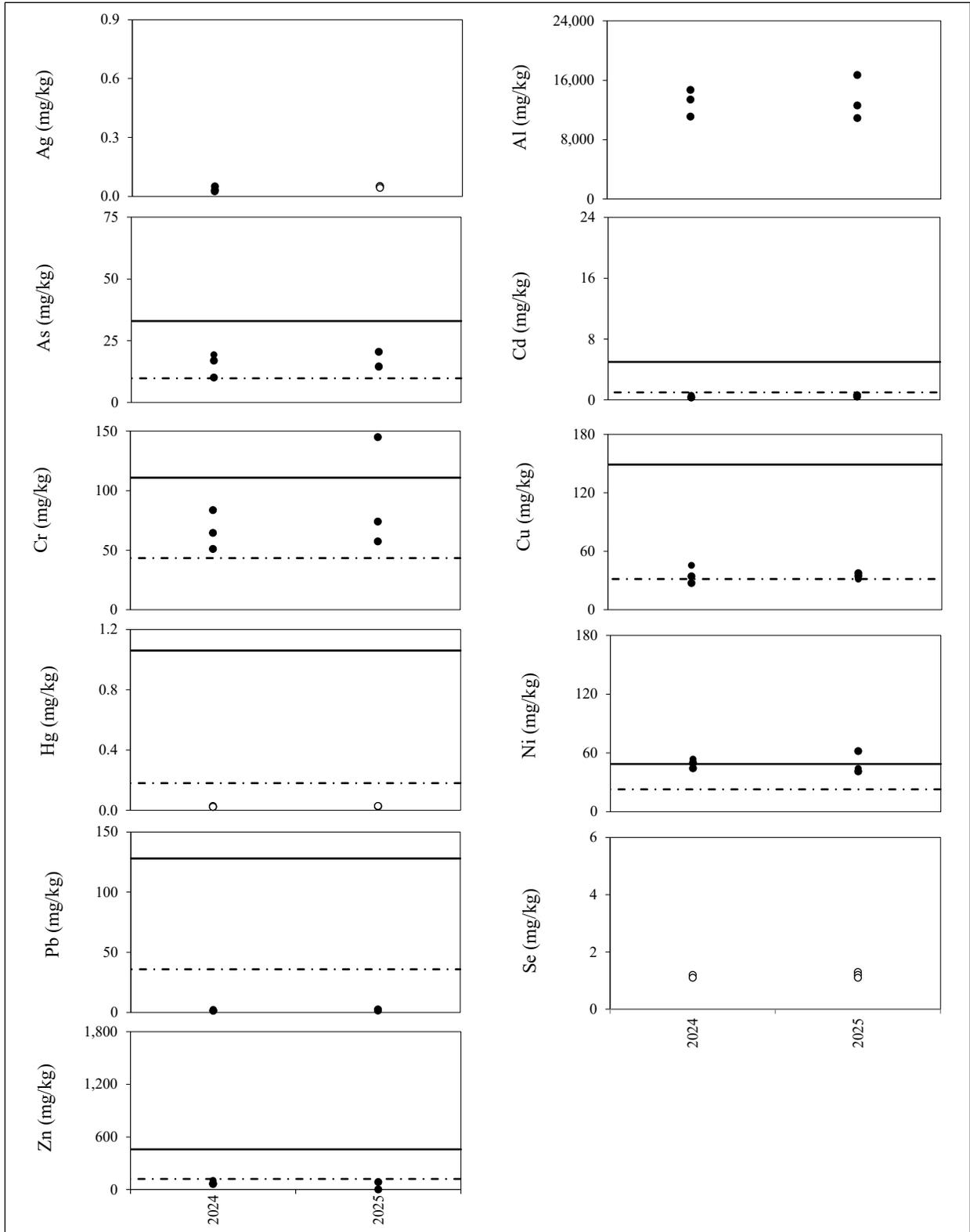


Figure 42.—Upper Slate Creek SP2 sediment element concentrations, 2024–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

JOHNSON CREEK

Lower Johnson Creek

Benthic Macroinvertebrate Density and Community Composition

The 2025 Lower Johnson Creek BMI estimate mean density is 1,022 BMI/m² and we identified 22 taxa (Table 15; Figures 43, 44). We estimate mean EPT density at 595 EPT/m² accounting for 58% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (34%) and worms of the subclass *Oligochaeta* (19%).

Table 14.–Lower Johnson Creek BMI data summaries, 2024–2025.

	2024	2025
Mean EPT density (per m ²)	1,554	595
Mean BMI density (per m ²)	1,885	1,022
Number of EPT Taxa	10	12
Number of BMI Taxa	22	22
% EPT	82	58

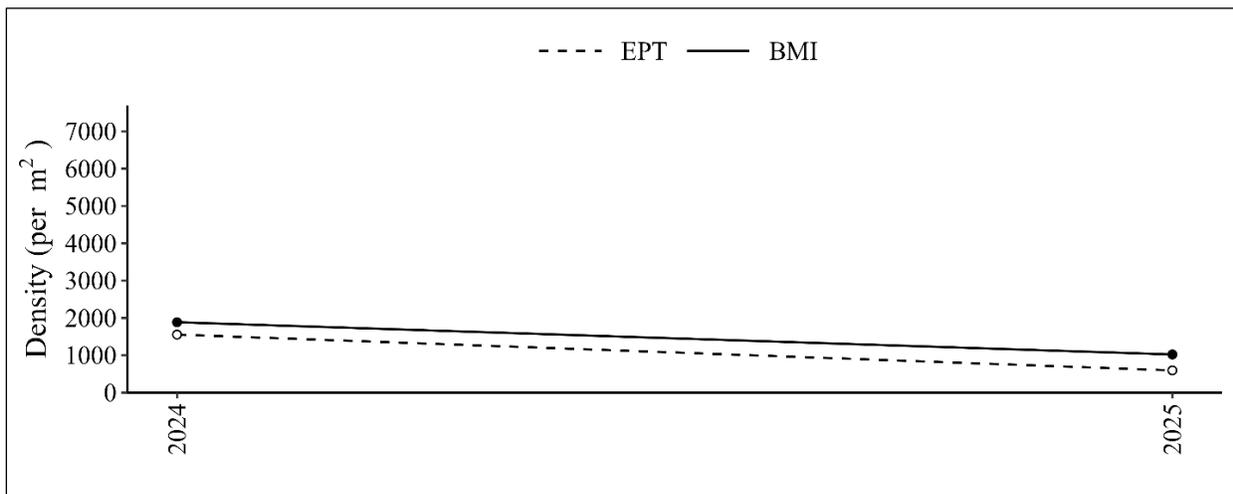


Figure 43.–Lower Johnson Creek mean BMI and EPT densities, 2024–2025.

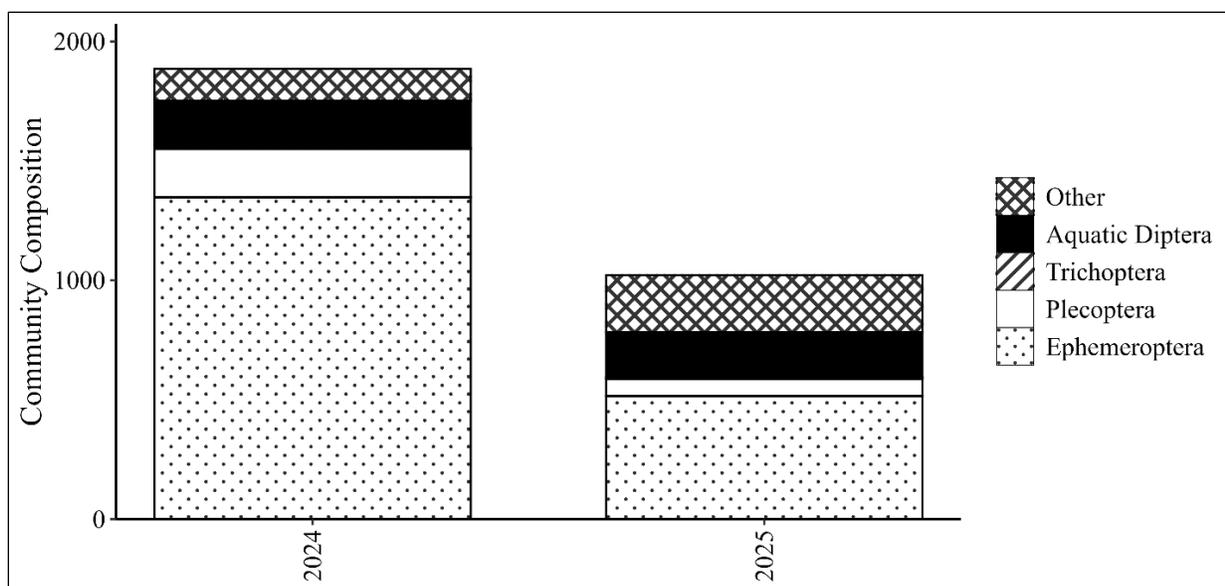


Figure 44.–Lower Johnson Creek community composition, 2024–2025.

Adult Salmon Counts

In 2025, the mean weekly salmon abundance index counts for Lower Johnson Creek were 1,058 pink salmon, 89 chum salmon, and 29 coho salmon (Table 15). Full weekly count data are in Appendix C.

Table 15.–Lower Johnson Creek mean weekly salmon abundance index, 2011–2025.

Year	Pink Salmon	Chum Salmon	Coho Salmon
2011	3668	60	12
2012	1422	0	15
2013	1629	1	15
2014	32	0	27
2015	13996	0	20
2016	98	9	4
2017	3215	0	22
2018	101	0	5
2019	758	16	26
2020	869	1	16
2021	3931	0	130
2022	440	11	26
2023	1041	0	13
2024	528	7	22
2025	1058	89	29

Sediment Element Concentrations

The 2025 Lower Johnson Creek sediment samples contained As, Cu, Ni, and Zn concentrations near or above the TEC freshwater sediment toxicity guidelines, as in previous years (Figure 45). All other element concentrations were below the PEC and TEC guidelines, and within ranges previously observed 2011–2024.

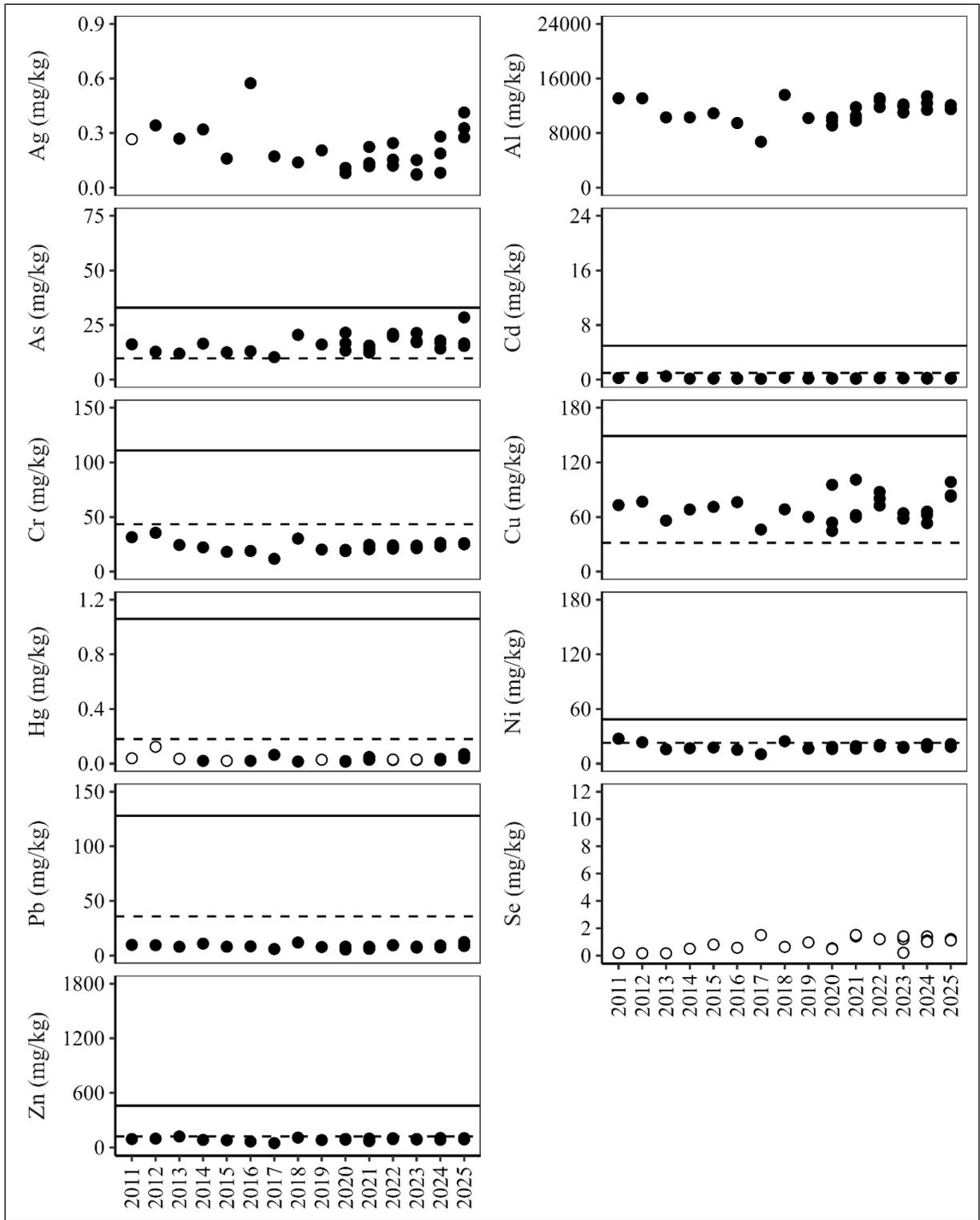


Figure 45.—Lower Johnson Creek sediment element concentrations, 2011–2025.
Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

Upper Johnson Creek Sample Point 1

Benthic Macroinvertebrate Density and Community Composition

The 2025 Upper Johnson Creek SP1 BMI estimate mean density is 3,489 BMI/m² and we identified 27 taxa, within the middle range of BMI densities and taxa observed 2011–2024 (Table 16; Figures 46, 47). We estimate mean EPT density at 2,780 EPT/m², within the upper range observed, accounting for 80% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genera *Baetis* (36%) and *Cinygmula* (21%).

Table 16.–Upper Johnson Creek SP1 BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	2,054	2,540	3,422	1,834	1,980	2,614	1,480	2,008	2,358	1,438
Mean BMI density (per m ²)	3,735	3,968	5,265	2,658	2,789	3,681	2,901	2,996	3,369	1,892
Number of EPT Taxa	14	14	24	21	17	21	19	20	18	19
Number of BMI Taxa	24	28	34	32	28	32	33	31	25	31
% EPT	55	64	65	69	71	71	51	67	70	76

Table 16.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	2,108	2,032	6,161	2,661	2,780
Mean BMI density (per m ²)	2,634	2,473	7,086	3,453	3,489
Number of EPT Taxa	18	13	23	20	18
Number of BMI Taxa	29	20	31	32	27
% EPT	80	82	87	77	80

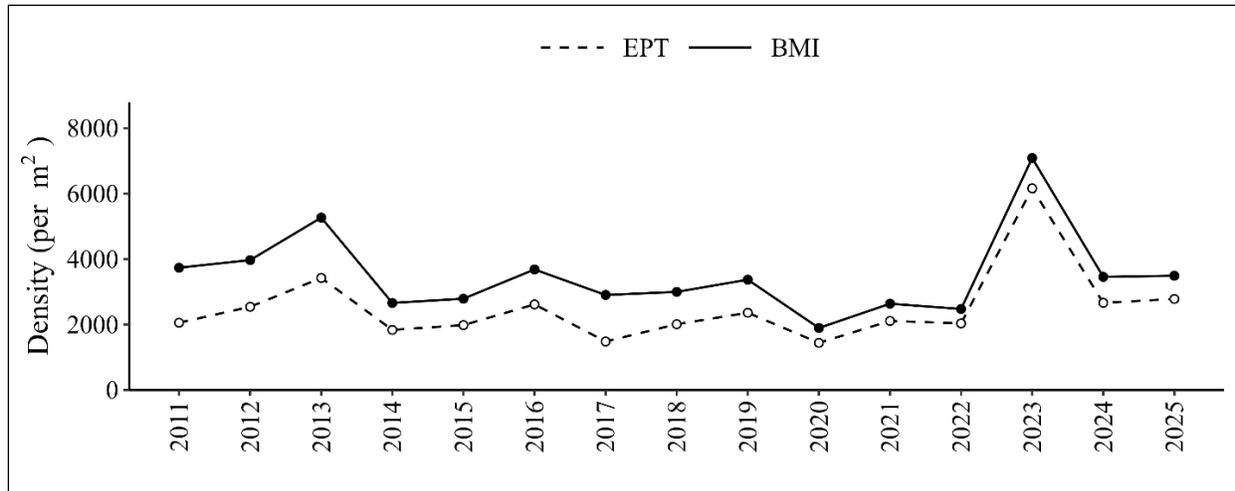


Figure 46.–Upper Johnson Creek SP1 mean BMI and EPT densities, 2011–2025.

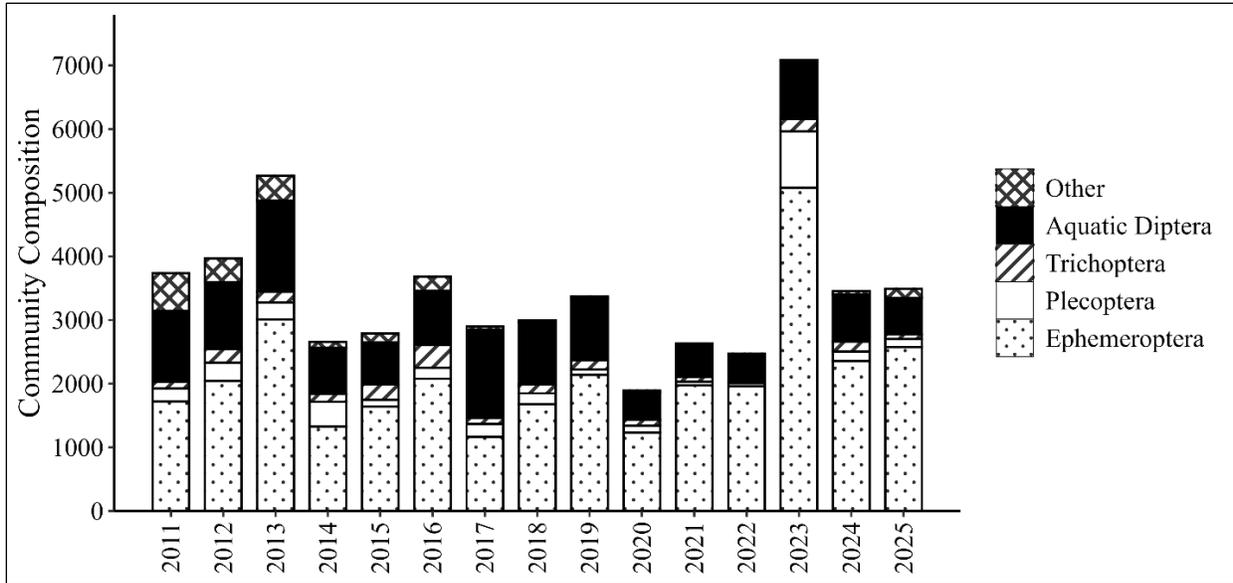


Figure 47.—Upper Johnson Creek SP1 BMI community composition, 2011–2025.

Sediment Element Concentrations

We collected sediment for the second time at Upper Johnson Creek SP1 and found samples contained mean Cu concentrations above the TEC freshwater sediment toxicity guidelines (Figure 37). All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines.

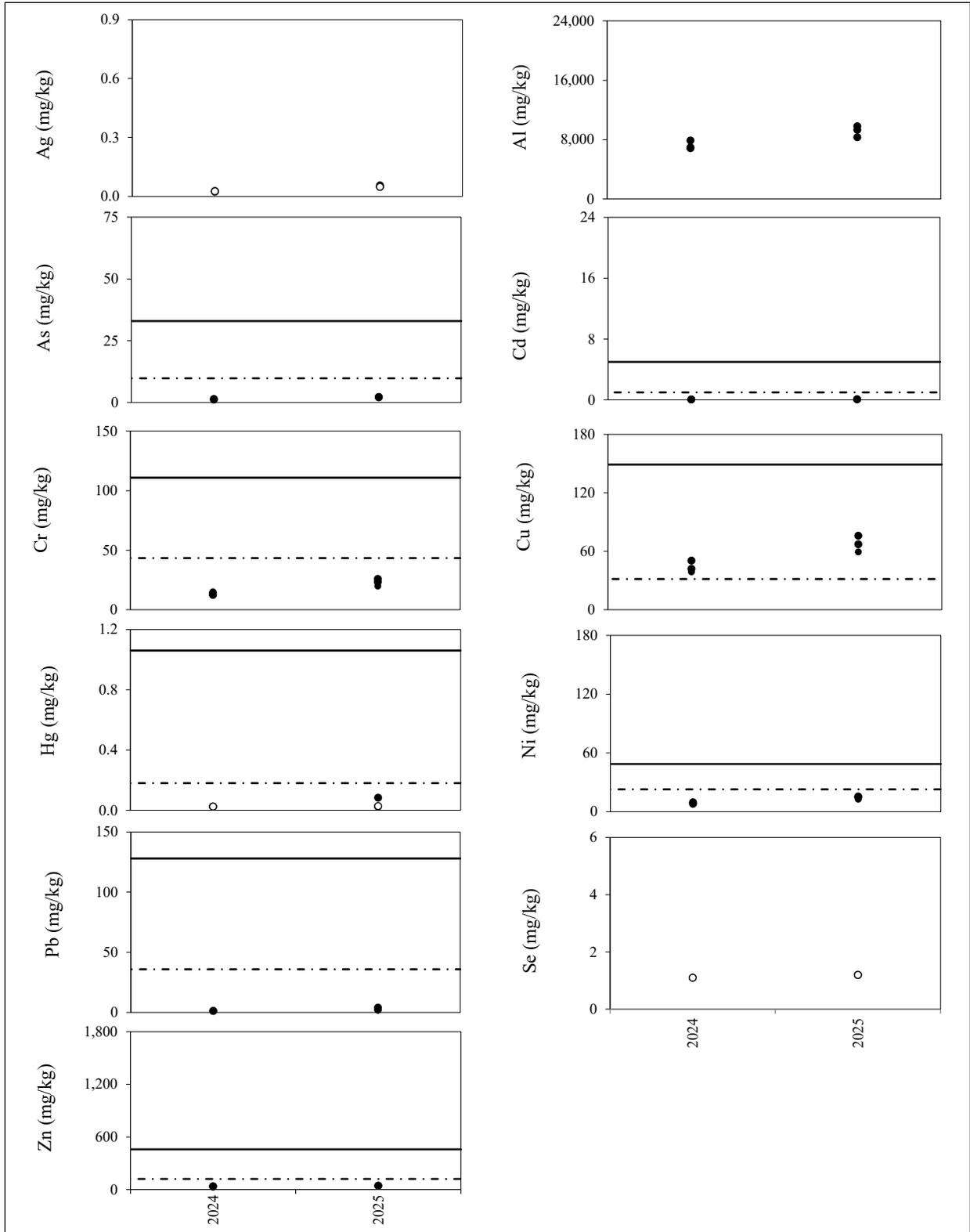


Figure 48.—Upper Johnson Creek SP 1 sediment element concentrations, 2024–2025.
Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

Upper Johnson Creek Sample Point 2

Benthic Macroinvertebrate Density and Community Composition

The 2025 Upper Johnson Creek SP2 BMI mean density estimate is 5,889 BMI/m² and we identified 30 taxa (Table 17; Figures 49, 50). We estimate mean EPT density at 3,645 EPT/m² accounting for 62% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (29%) and Diptera of the family Chironomidae (29%). The SP2 BMI mean density is much higher than the SP1 mean density (3,489 BMI/m²) and the percentage of EPT is slightly lower (80%).

Table 17.—Upper Johnson Creek SP2 BMI data summaries, 2024–2025.

	2024	2025
Mean EPT density (per m ²)	4,247	3,645
Mean BMI density (per m ²)	5,466	5,889
Number of EPT Taxa	21	20
Number of BMI Taxa	36	30
% EPT	78	62

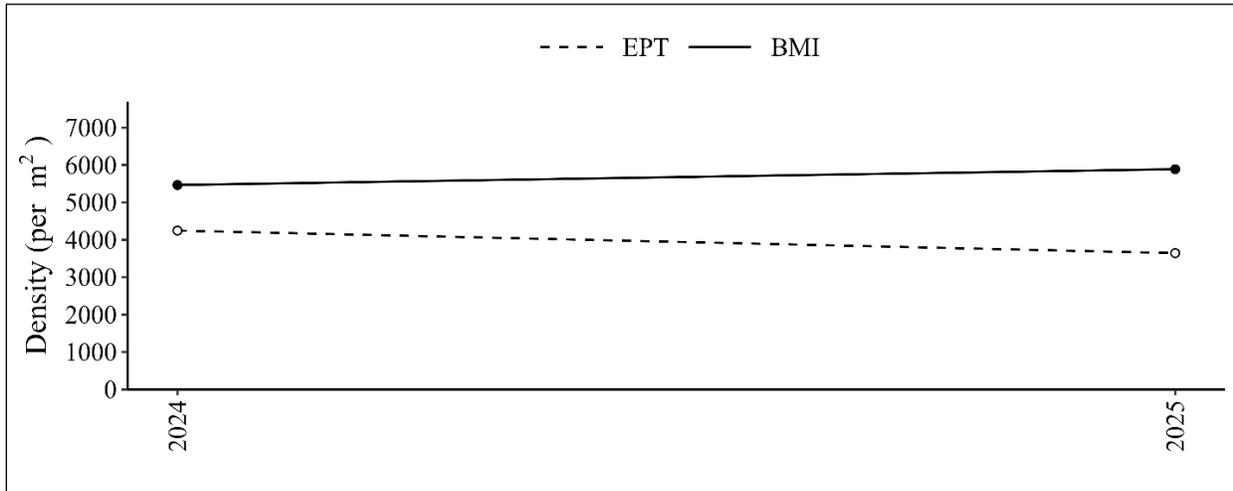


Figure 49.—Upper Johnson Creek SP2 mean BMI and EPT densities, 2024–2025.

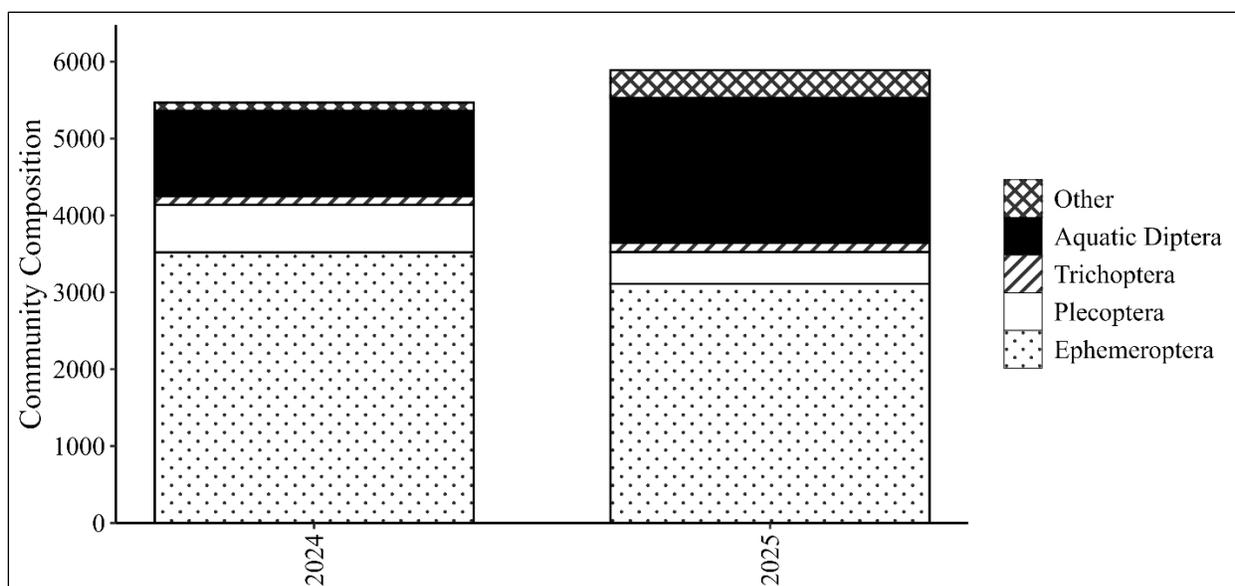


Figure 50.—Upper Johnson Creek SP2 BMI community composition, 2024–2025.

SHERMAN CREEK

A fish mortality event was discovered in Sherman Creek on August 9, 2024, which prompted additional sampling in the drainage. Sampling included BMIs and periphyton taken from sites 80 m up and downstream of the Outfall 001 on August 14, 2024; resident fish trapping on October 23, 2024; BMI sampling on May 5, 2025; and resident fish trapping on September 17, and October 9 and 27, 2025. Results from these efforts are summarized in supplemental reports.^{uv} These reports detail a return to normal levels of BMI community health metrics at the site 80 m downstream of the Sherman Creek Outfall 001 in 2025, as well as initial fish recolonization of the reaches downstream of the outfall.

Lower Sherman Creek Sample Point 1

Periphyton: Chlorophyll Density and Composition

The 2025 Lower Sherman Creek SP1 estimate mean Chl-*a* density was 5.12 mg/m², at the upper end of the range previously observed (Table 18; Figure 51). The samples contained about 89% Chl-*a*, 10% Chl-*c*, and 1% Chl-*b*, consistent with composition observed in previous years (Figure 52).

^u Jesse Lindgren, Habitat Biologist, to Kate Kanouse, Southeast Regional Supervisor, ADF&G Habitat Section. Memorandum: Update to the August 9, 2024, Sherman Creek fish mortality event; dated 5/2/2025.

^v Greg Albrecht, Habitat Biologist, to Kate Kanouse, Southeast Regional Supervisor, DF&G Habitat Section. Memorandum: Resident fish presence assessment in Sherman Creek; dated 1/29/2026

Table 18.—Lower Sherman Creek SP1 mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl-a (mg/m ²)	7.60	2.54	3.69	1.34	1.36	3.70	3.86	2.64	2.74	6.23	7.41	4.11	5.13	2.50	5.12
Chl-b (mg/m ²)	0.69	0.93	0.00	0.00	0.00	0.74	0.00	0.00	0.09	0.49	0.00	0.02	0.00	0.04	0.03
Chl-c (mg/m ²)	0.49	0.08	0.51	0.18	0.17	0.33	0.56	0.33	0.49	0.47	1.15	0.48	0.52	0.30	0.45

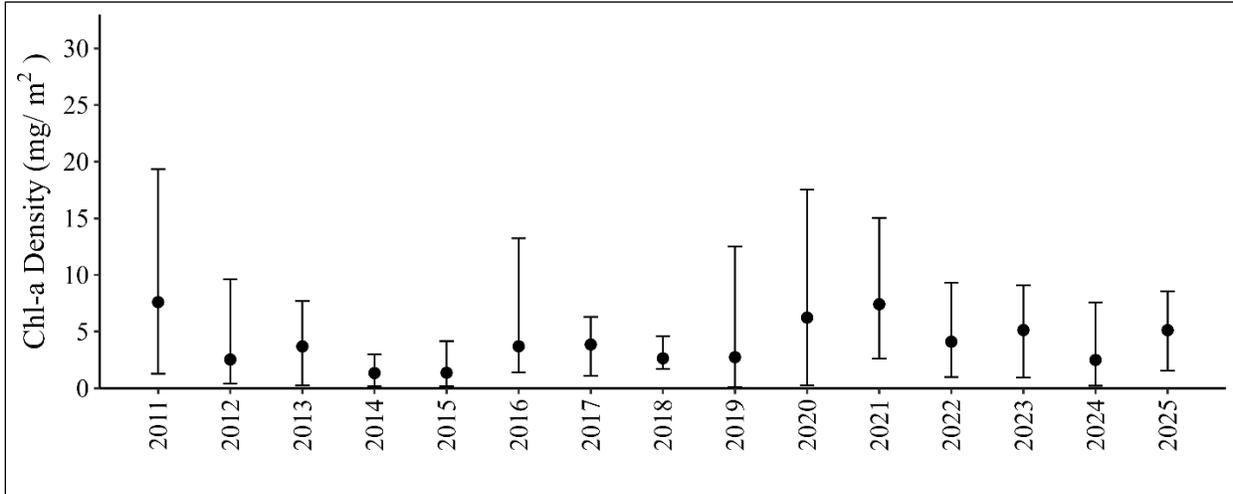


Figure 51.—Lower Sherman SP1 mean chlorophyll *a* densities, 2011–2025.

Note: Minimum, mean, and maximum values shown.

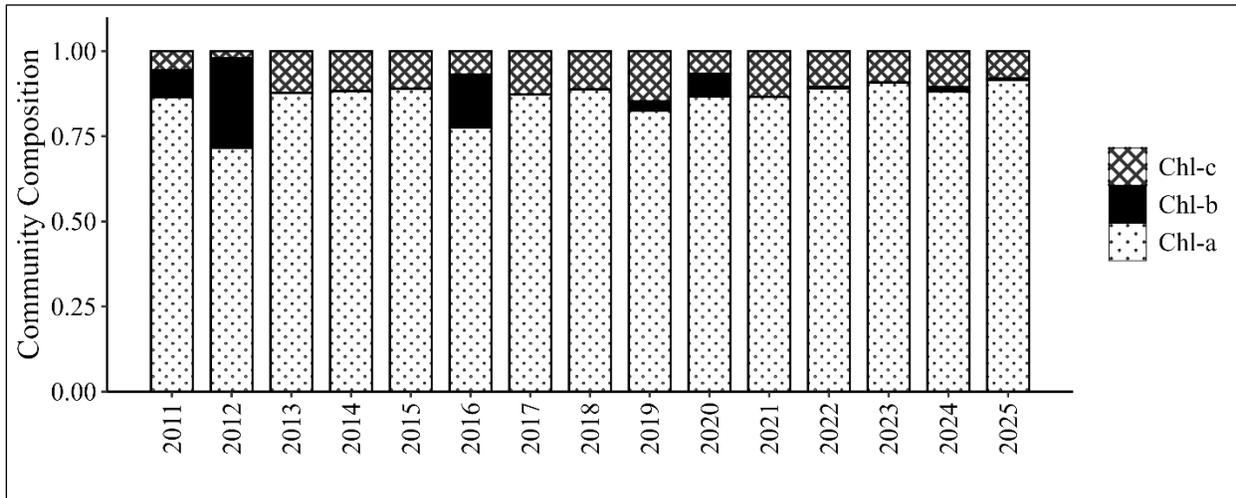


Figure 52.—Lower Sherman SP1 mean proportions of chlorophylls *a*, *b*, and *c*, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 Lower Sherman Creek SP1 BMI estimate mean density is 3,161 BMI/m² and we identified 30 taxa, at the upper end of the range of BMI density observed 2011–2024 (Table 19; Figures 53, 54) We estimate mean EPT density at 1,584 EPT/m², within the upper range observed, accounting for 50% of the samples. The dominant taxa were worms of the subclass *Oligochaeta* (27%) and Ephemeroptera (mayflies) of the genus *Baetis* (25%).

Table 19.–Lower Sherman Creek SP1 BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	358	1,804	1,149	423	446	274	313	629	809	382
Mean BMI density (per m ²)	1,118	2,733	1,796	3,023	1,651	6,839	1,009	912	1,263	1,272
Number of EPT Taxa	15	18	16	13	13	13	13	16	14	14
Number of BMI Taxa	26	31	28	30	26	26	25	26	25	24
% EPT	32	66	64	14	27	4	31	69	64	30

Table 19.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	880	1,108	1,676	1333	1584
Mean BMI density (per m ²)	989	1,504	1,970	3,699	3,161
Number of EPT Taxa	14	15	15	12	17
Number of BMI Taxa	20	24	19	22	30
% EPT	89	74	85	36	50

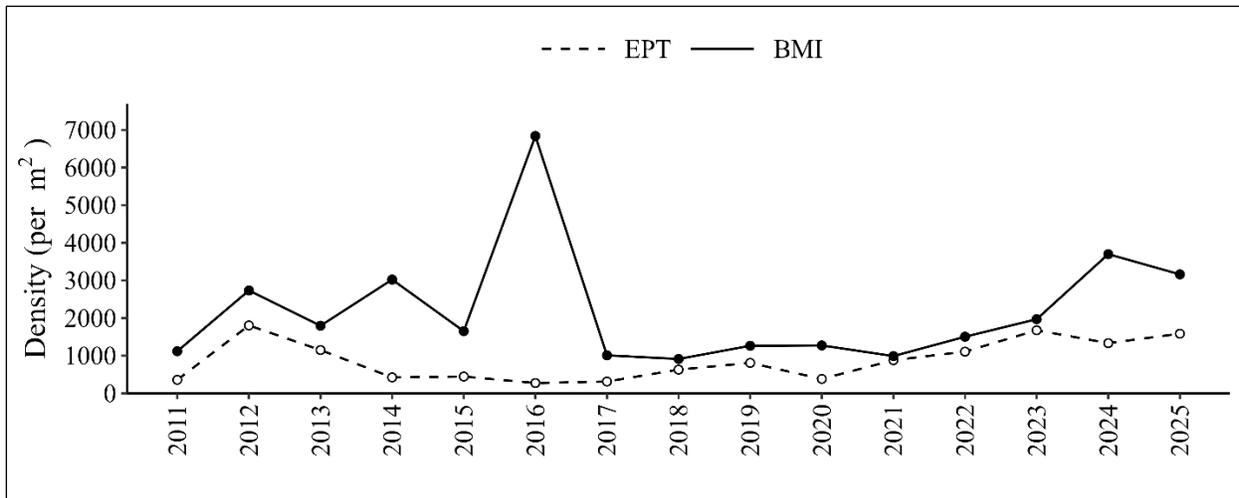


Figure 53.–Lower Sherman Creek SP1 mean BMI and EPT densities, 2011–2025.

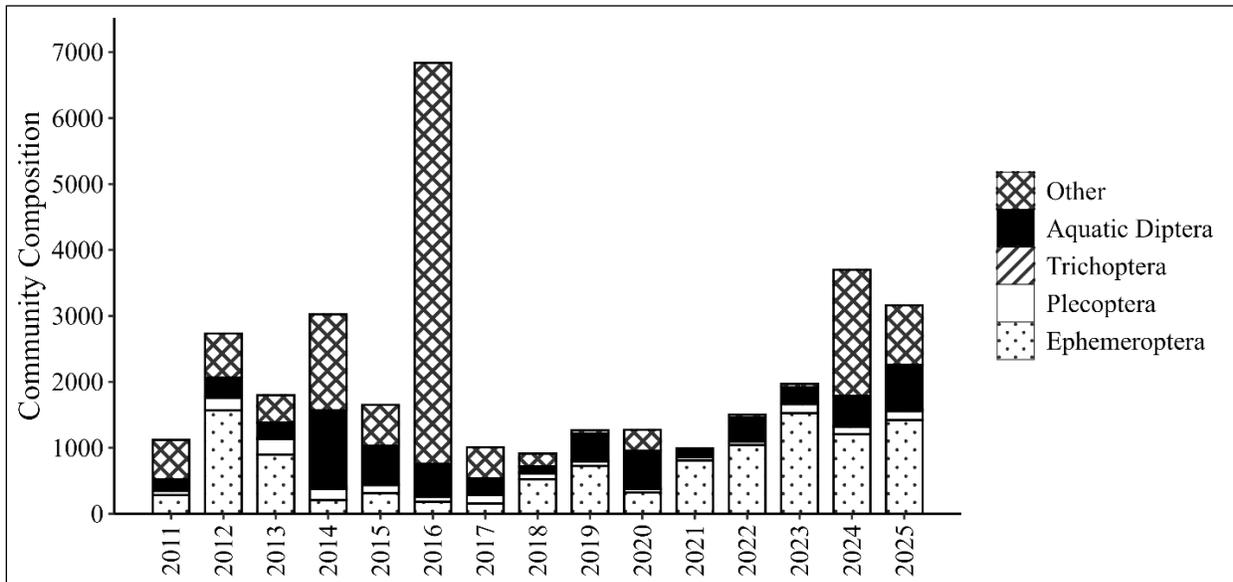


Figure 54.–Lower Sherman Creek SP1 BMI community composition, 2011–2025.

Adult Salmon Counts

In 2025, the mean weekly salmon abundance index counts for Lower Sherman Creek were 39 pink salmon, and 2 chum salmon, which is atypically low for odd year pink salmon returns (Table 20). Since coho salmon do not use Sherman Creek, we did not survey for adults. Full weekly count data are in Appendix C.

Table 20.–Lower Sherman Creek mean weekly salmon abundance index, 2011–2025.

Year	Pink Salmon	Chum Salmon
2011	740	0
2012	301	0
2013	764	2
2014	18	0
2015	468	0
2016	6	0
2017	861	38
2018	29	2
2019	583	32
2020	30	0
2021	220	0
2022	9	0
2023	477	4
2024	20	0
2025	39	2

Sediment Element Concentrations

Among the 2025 Lower Sherman Creek SP1 sediment samples, the As, Cr, Cu, Ni, and Zn concentrations were near or above the TEC, as in previous years (Figure 55). All other element concentrations were below the TEC and PEC freshwater sediment toxicity guidelines, and within ranges previously observed 2011–2024.

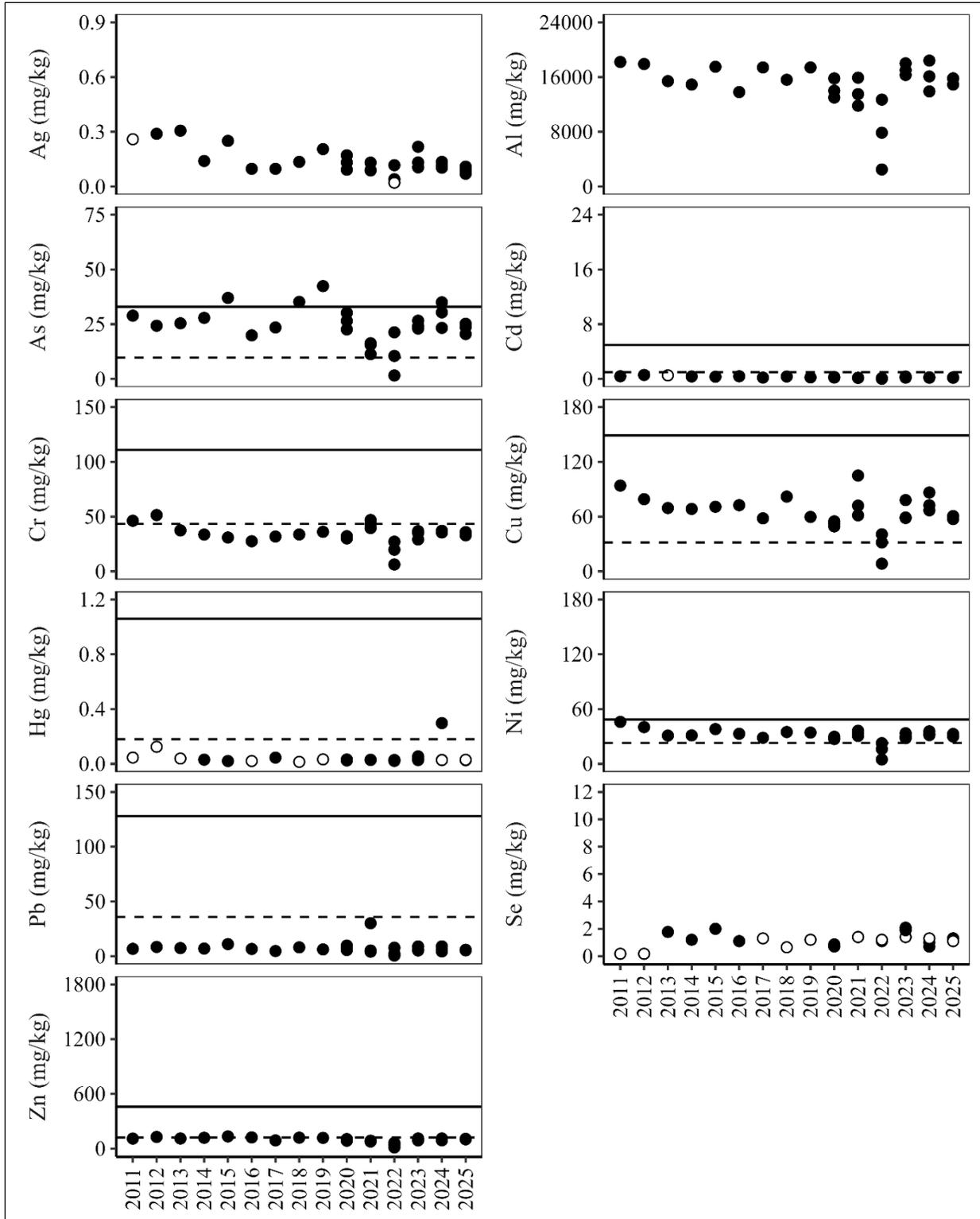


Figure 55.—Lower Sherman Creek SP1 sediment element concentrations, 2011–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents the TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

Lower Sherman Creek Sample Point 2

Periphyton: Chlorophyll Density and Composition

The 2025 Lower Sherman Creek SP2 estimate mean Chl-*a* density was 3.88 mg/m², lower than SP1 (5.12 mg/m²) and within the middle range of mean densities 2011–2024 (Table 21; Figure 56). The samples contained about 90% Chl-*a*, 1% Chl-*b*, and 9% Chl-*c*, consistent with composition observed in previous years (Figure 57).

Table 21.–Lower Sherman Creek SP2 mean chlorophylls *a*, *b*, and *c* densities, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Chl- <i>a</i> (mg/m ²)	5.61	0.67	2.87	1.32	1.62	1.42	1.15	1.49	2.12	7.60	5.54	2.54	2.66	2.19	3.88
Chl- <i>b</i> (mg/m ²)	0.02	0.01	0.00	0.00	0.15	0.04	0.00	0.00	0.00	0.87	0.00	0.00	0.01	0.00	0.03
Chl- <i>c</i> (mg/m ²)	0.32	0.09	0.32	0.12	0.26	0.18	0.12	0.19	0.29	0.49	0.72	0.24	0.26	0.26	0.36

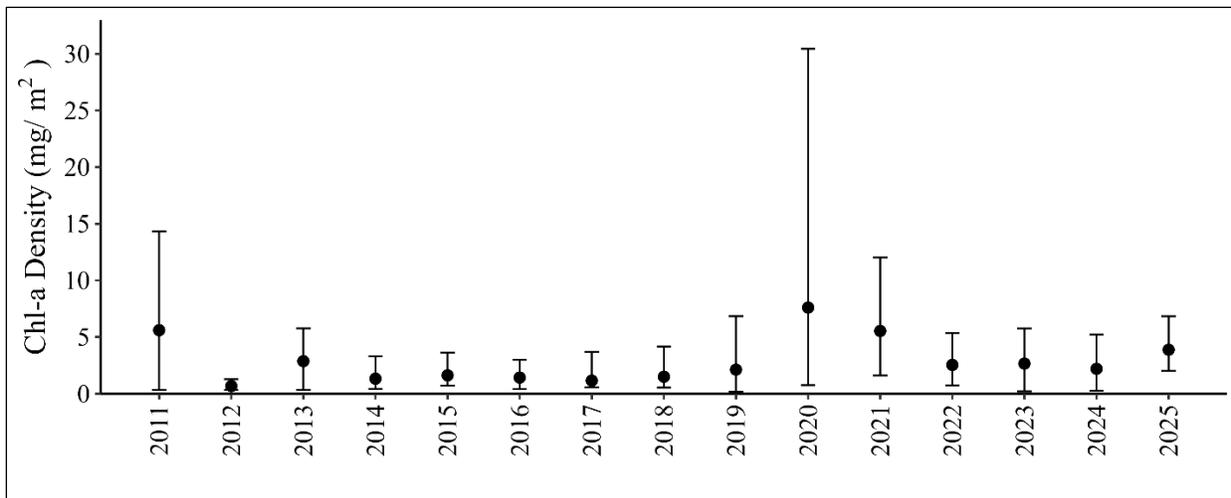


Figure 56.–Lower Sherman SP2 mean chlorophyll *a* densities, 2011–2025.

Note: Minimum, mean, and maximum values shown.

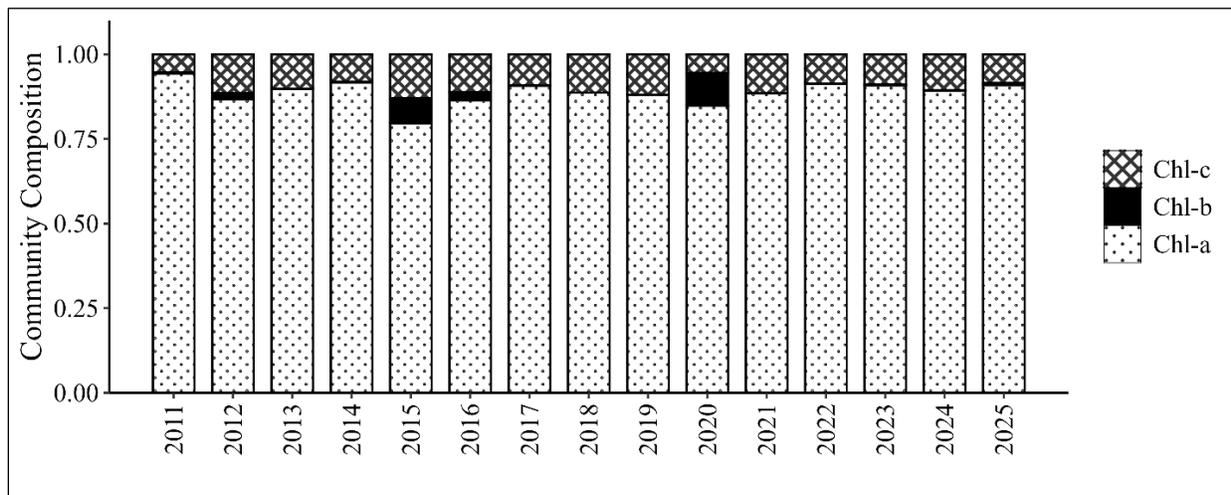


Figure 57.–Lower Sherman SP2 mean proportions of chlorophylls *a*, *b*, and *c*, 2011–2025.

Benthic Macroinvertebrate Density and Community Composition

The 2025 Lower Sherman Creek SP2 BMI estimate mean density is 3,292 BMI/m² and we identified 31 taxa, within the upper range of BMI densities observed 2011–2024 (Table 22; Figures 58, 59). We estimate mean EPT density at 1,677 EPT/m², within the middle range observed, accounting for 51% of the samples. The dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (31%) and worms of the subclass *Oligochaeta* (31%).

Table 22.–Lower Sherman Creek SP2 BMI data summaries, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mean EPT density (per m ²)	1,255	2,230	2,437	142	402	225	120	856	1,380	383
Mean BMI density (per m ²)	1,651	2,823	3,385	1,185	1,609	1,873	428	973	1,624	871
Number of EPT Taxa	17	26	25	16	13	13	14	18	15	16
Number of BMI Taxa	30	36	39	28	23	23	26	21	25	23
% EPT	76	79	72	12	25	12	28	88	85	44

Table 22.–Continued.

	2021	2022	2023	2024	2025
Mean EPT density (per m ²)	598	932	2,959	1,873	1,677
Mean BMI density (per m ²)	720	1,156	3,453	2,878	3,292
Number of EPT Taxa	18	12	16	19	18
Number of BMI Taxa	26	18	24	29	31
% EPT	83	81	86	65	51

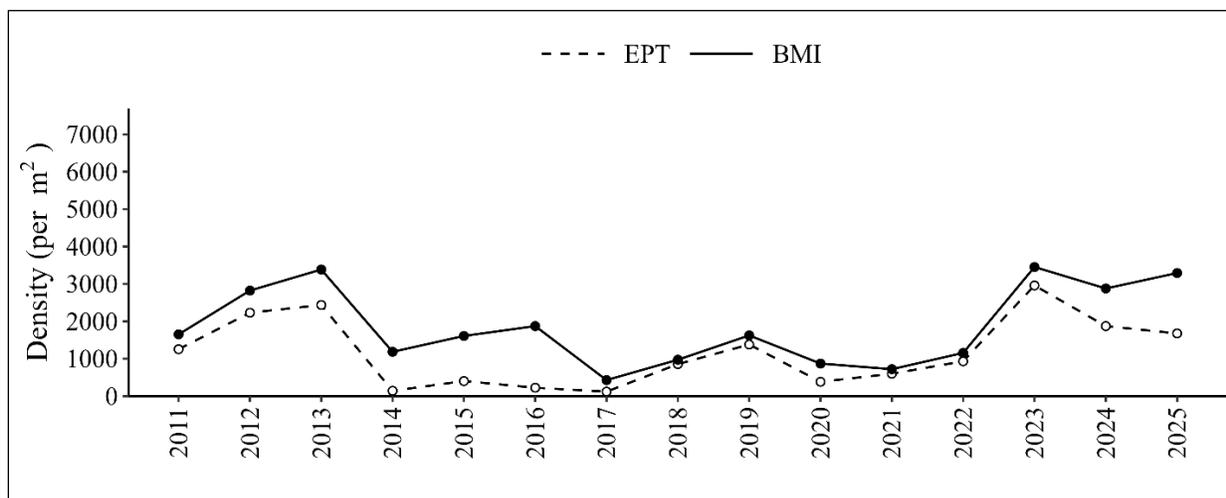


Figure 58.–Lower Sherman Creek SP2 mean BMI and EPT densities, 2011–2025.

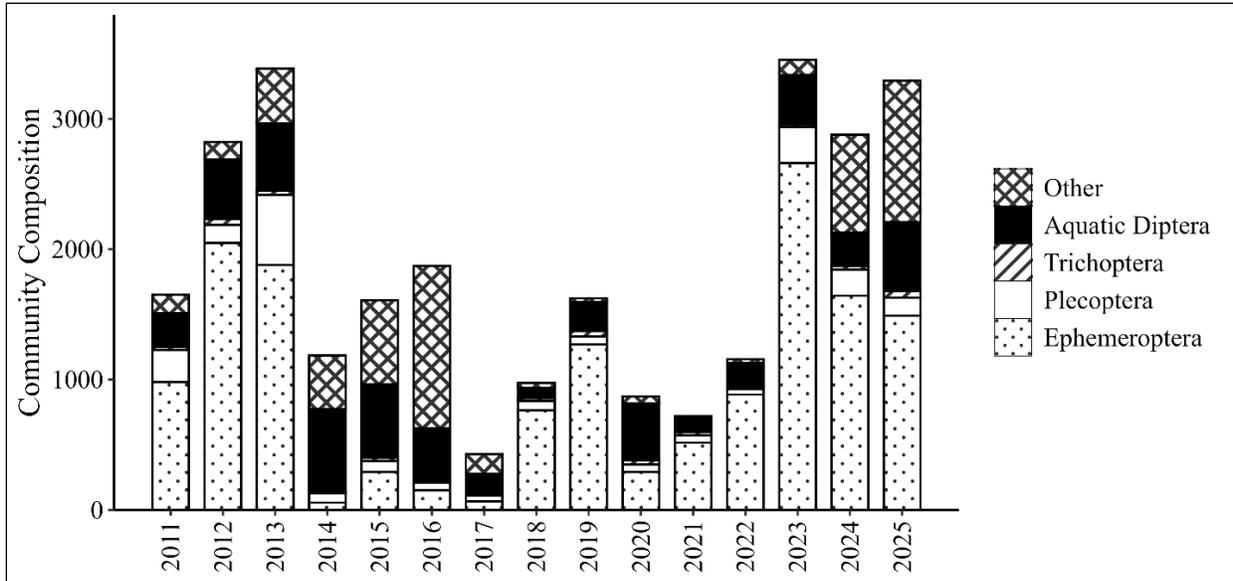


Figure 59.—Lower Sherman Creek SP2 BMI community composition, 2011–2025.

Upper Sherman Creek

Periphyton: Chlorophyll Density and Composition

We sampled periphyton for the second year at Upper Sherman Creek and mean Chl-*a* density was 7.38 mg/m² and samples contained about 90% Chl-*a*, 0% Chl-*b*, and 10% Chl-*c* (Table 23; Figures 60, 61).

Table 23.—Upper Sherman Creek mean chlorophylls *a*, *b*, and *c* densities, 2024–2025.

Sample Date	2024	2025
Chl- <i>a</i> (mg/m ²)	3.78	7.38
Chl- <i>b</i> (mg/m ²)	0.00	0.00
Chl- <i>c</i> (mg/m ²)	0.54	0.82

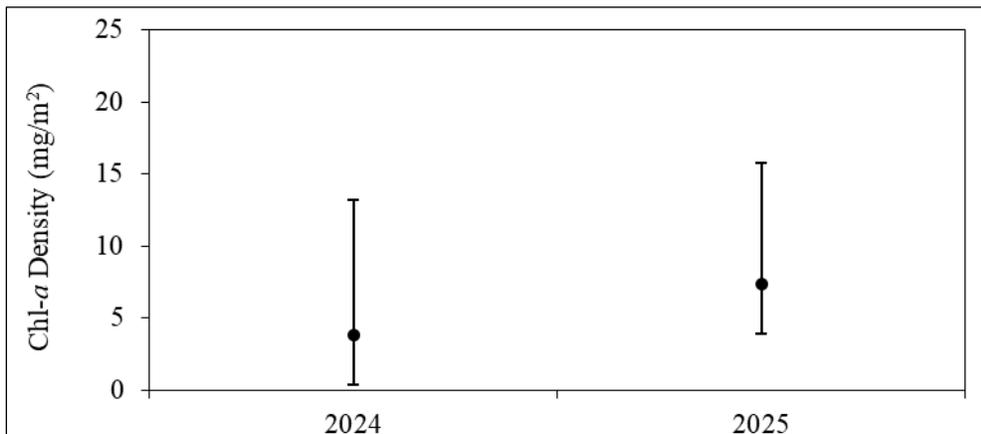


Figure 60.—Upper Sherman Creek mean chlorophyll *a* densities, 2024–2025.
Note: Minimum, mean, and maximum values shown.

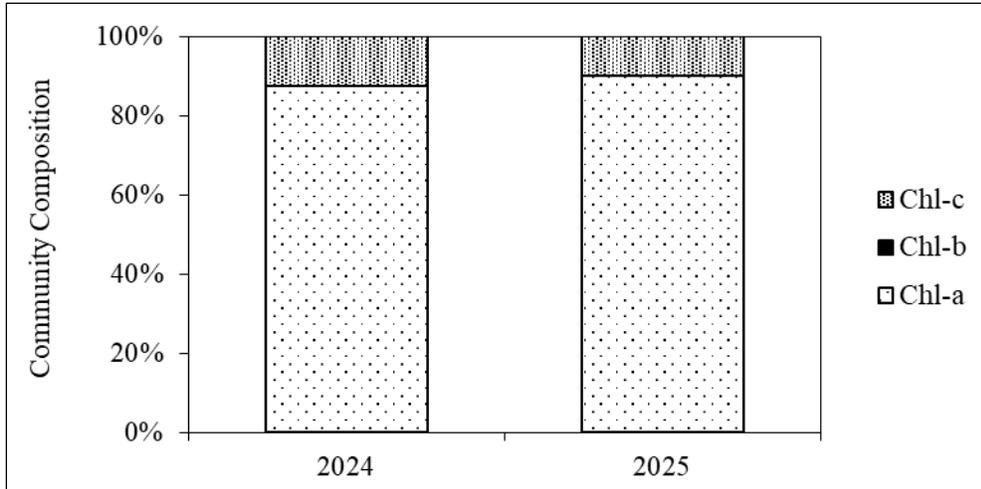


Figure 61.—Upper Sherman Creek mean proportions of chlorophylls *a*, *b*, and *c*, 2024–2025.

Benthic Macroinvertebrate Density and Community Composition

We sampled BMIs at Upper Sherman Creek in 2025 for the second year and found the BMI mean density estimate is 4,066 BMI/m² and we identified 42 taxa (Table 24; Figures 62, 63). We estimate mean EPT density at 3,256 EPT/m² accounting for 80% of the samples. Dominant taxa were Ephemeroptera (mayflies) of the genus *Baetis* (52%) and Diptera of the family Chironomidae (14%).

Table 24.—Upper Sherman Creek BMI data summaries, 2024–2025.

	2024	2025
Mean EPT density (per m ²)	3,842	3,256
Mean BMI density (per m ²)	4,414	4,066
Number of EPT Taxa	20	26
Number of BMI Taxa	32	42
% EPT	87	80

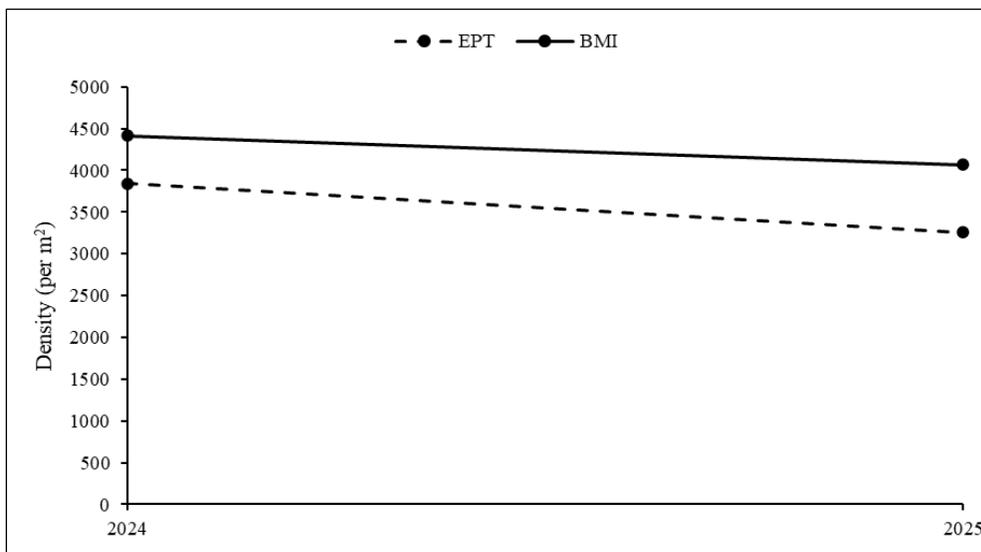


Figure 62.—Upper Sherman Creek mean BMI and EPT densities, 2024–2025.

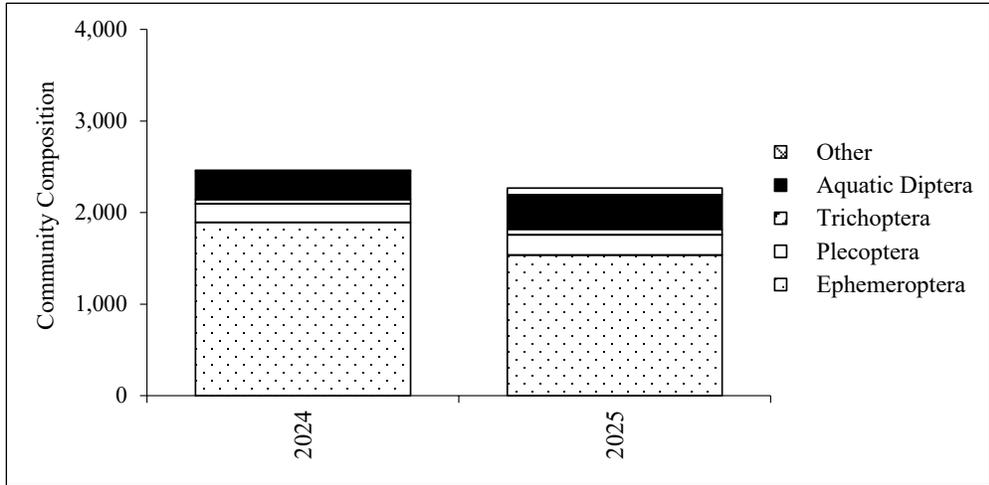


Figure 63.—Upper Sherman Creek BMI community composition, 2024–2025.

Sediment Element Concentrations

We collected sediment at Upper Sherman Creek for the second year and found the sediment samples contained As concentrations above the PEC freshwater sediment toxicity guideline (Figure 64); Cr, Cu, Ni, and Zn concentrations were near or above the TEC, similar to Lower Sherman Creek SP2. All other element concentrations were below the TEC freshwater sediment toxicity guidelines.

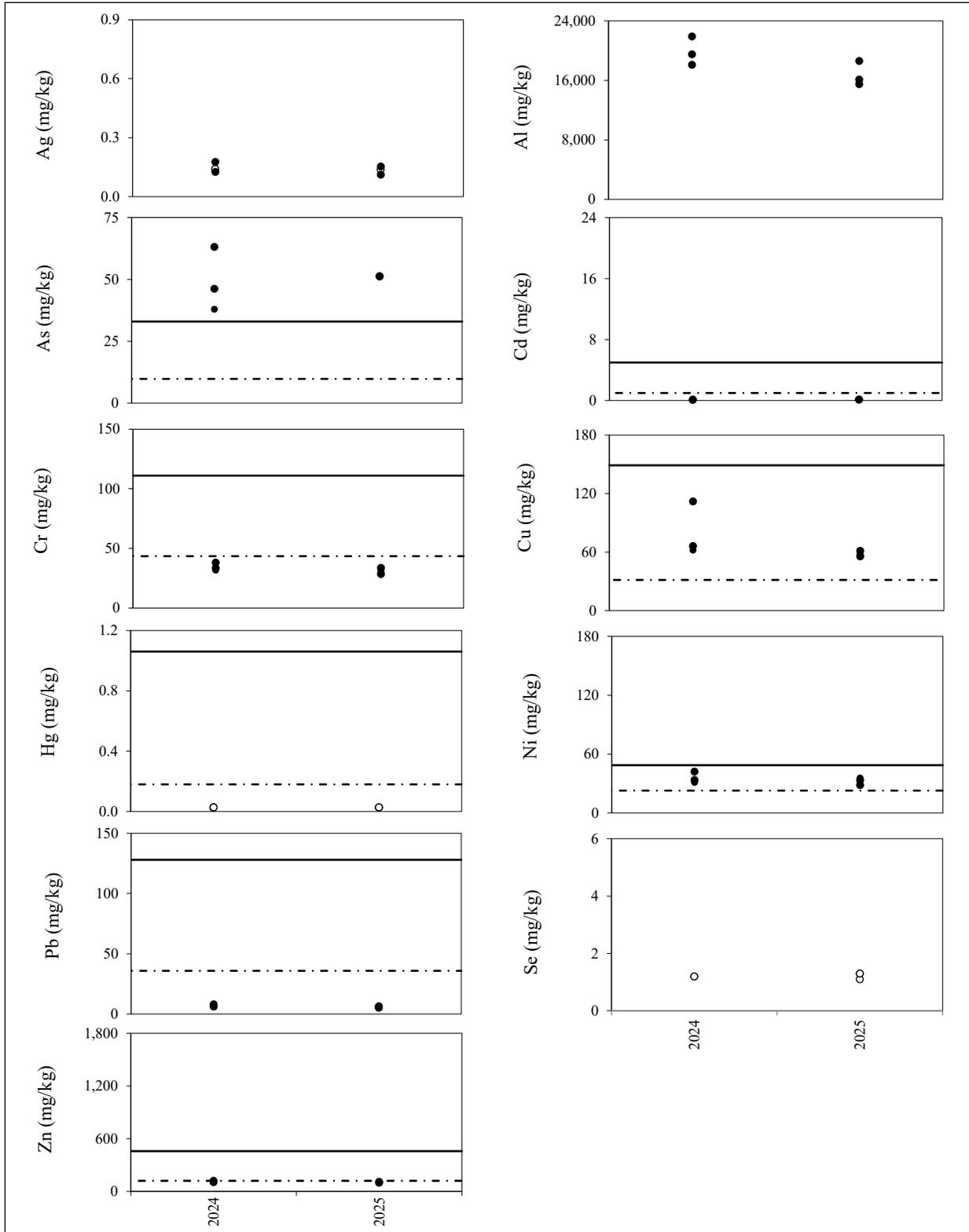


Figure 64.– West Fork Slate Creek sediment element concentrations, 2024–2025.

Note: Elements undetected (o) are presented at the method reporting limit. The dashed line represents TEC and solid line represents the PEC; guidelines are not published for Ag, Al, or Se (Buchman 2008).

COMPARISONS AMONG SITES

Periphyton: Chlorophyll Density

Among the Slate Creek sites sampled from 2011 to 2024, mean Chl-*a* densities generally followed a similar trend and all were similar and in the middle range observed in 2025 (Figure 65). The East Fork Slate Creek samples were mishandled in the laboratory and could not be analyzed, therefore 2025 data are not available. Chl-*a* densities at this site vary little annually, due to muted stream temperature and stream flows dictated by Outfall 002.

Mean Chl-*a* density was in the middle range of the values observed since 2011, likely due to near average rainfall in the preceding months. Upper Sherman Creek mean Chl-*a* density in 2024 and 2025 were slightly lower than values from Lower Sherman sites, likely due to the upper Sherman Creek site being a narrower and higher gradient channel at greater elevation (250 m; Figure 66). While the reach has a similar orientation to the lower sites, it may experience less solar energy due to thicker canopy cover and the ridgeline immediately south.

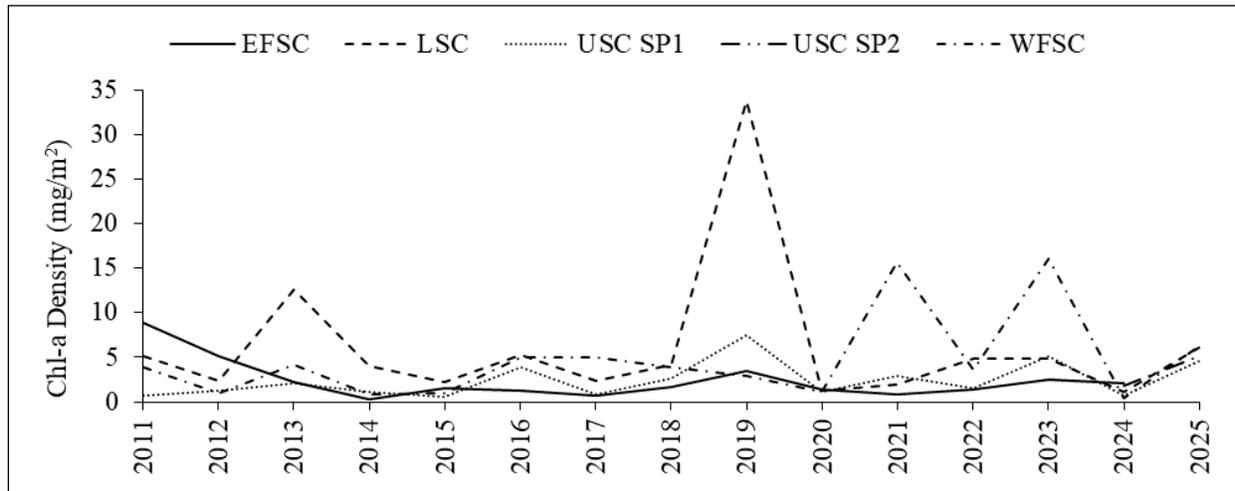


Figure 65.—East Fork, Lower, Upper SP1, Upper SP2, and West Fork Slate Creek mean chlorophyll *a* densities, 2011–2025.

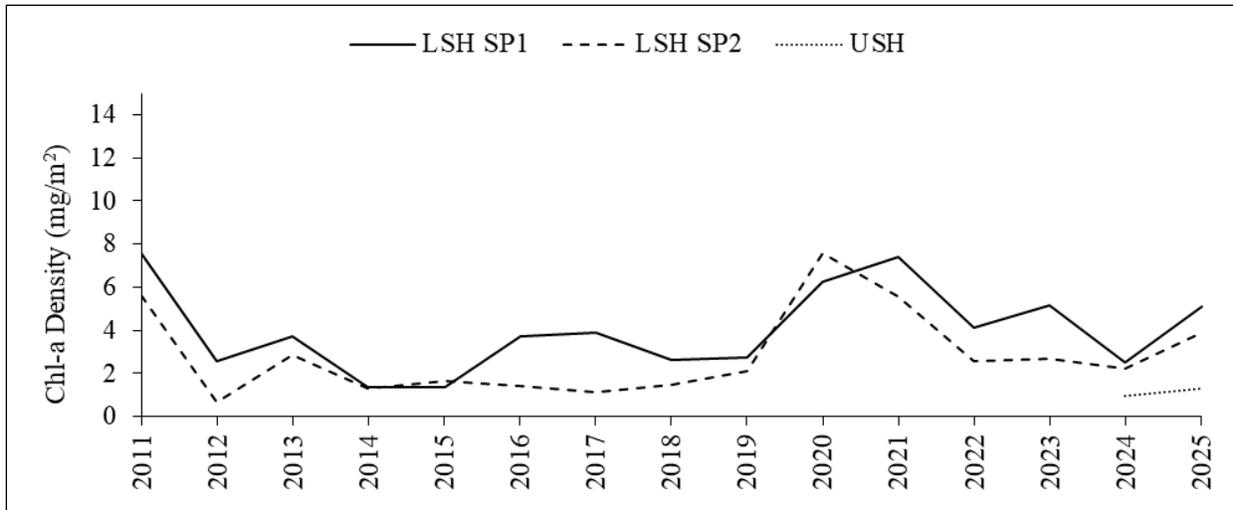


Figure 66.—Lower Sherman Creek SP1 and SP2 and Upper Sherman Creek mean chlorophyll *a* densities, 2011–2025.

EPT Density

EPT densities at sites sampled were in the middle-to-upper range of observations since 2011. Benthic macroinvertebrate densities and percent EPT at new reference sites were lower than in 2024; however, results varied by drainage (Figures 67–69).

EPT density at the new Upper Slate Creek SP2 reference site declined from 2024, as did density at SP1 just downstream; however, SP2 had the highest EPT density in the drainage. East Fork Slate Creek continues to have the lowest percent and density of EPT among samples, though usually a greater overall invertebrate density due to abundance of pea clams—a result of upstream lake influence.

EPT density in samples from Upper Johnson Creek SP1 rose slightly, remaining in the middle of the range of means observed. EPT density at SP2 declined since 2024; however, density was the highest in the drainage. Lower Johnson Creek EPT density was about 1/3 of the 2024 value. While data at Lower Johnson Creek is limited to only two years, this change was the result of a decrease in a single taxon of Ephemeroptera and simultaneous increase in Oligochaetes (worms) and Dipterans (non-biting midges), which brought the %EPT taxa from 82 in 2024 down to 58 in 2025; however, these low values are similar to Lower Slate Creek.

Lower Sherman SP1 and SP2 samples showed little meaningful variation since 2024 and may or may not have been impacted by water quality during the August 9, 2024, fish mortality event. Macroinvertebrate life cycles are short and diverse, allowing for quick recovery if impacted. Upper Sherman Creek samples contained two times the EPT density of Lower Sherman, largely due to high numbers of Ephemeroptera (mayflies) of the genus *Baetis*.

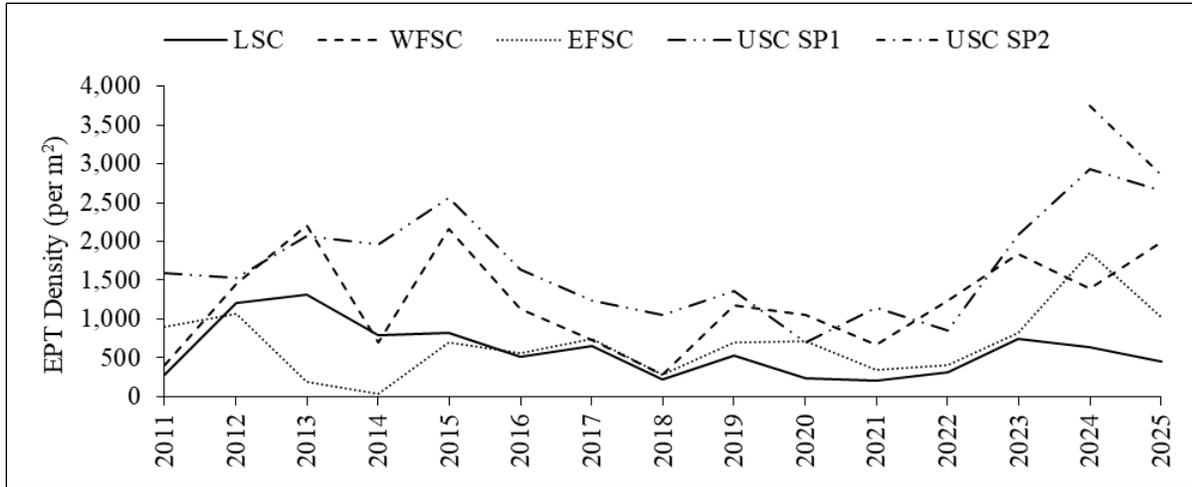


Figure 67.—East Fork Slate, Lower Slate, Upper Slate SP1, Upper Slate SP2, and West Fork Slate Creek EPT densities, 2011–2025.

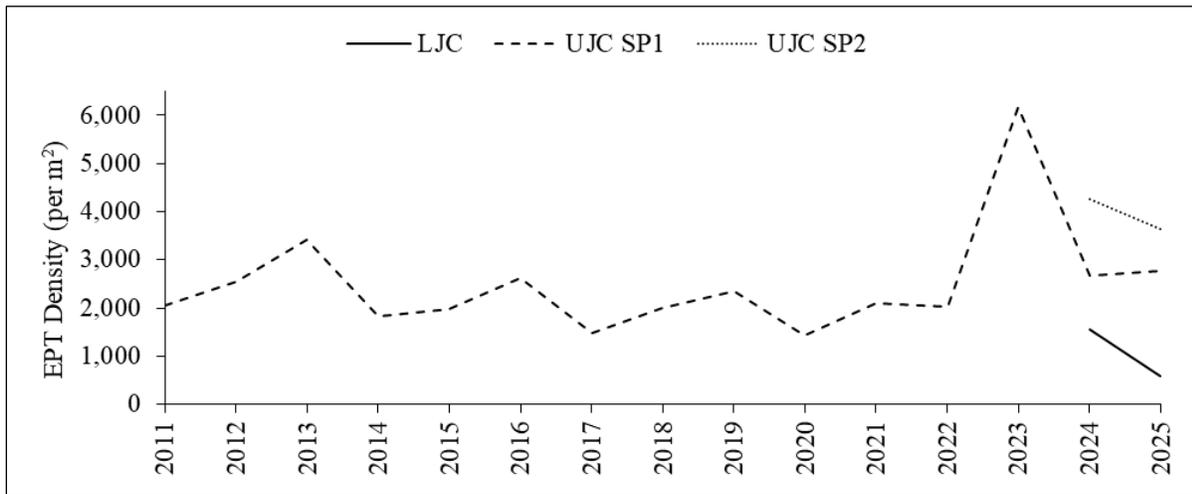


Figure 68.— East Fork Slate, Lower Slate, Upper Slate SP1, and West Fork Slate Creek BMI taxa richness, 2011–2025.

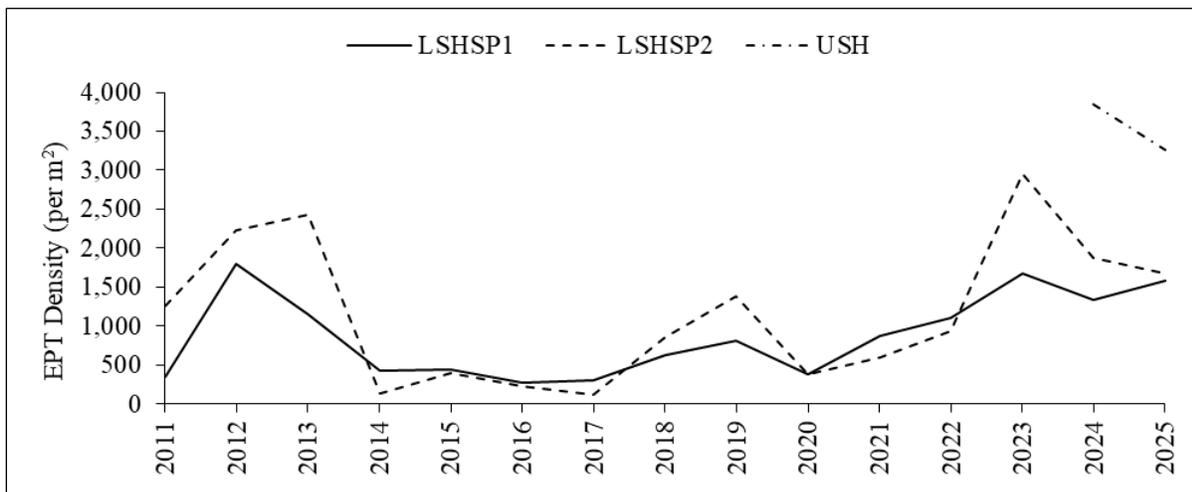


Figure 69.—Lower Sherman SP1 and SP2, and Upper Sherman Creek EPT densities, 2011–2025.

Sediment Element Concentrations

With the exception of As concentrations at East Fork Slate Creek and Upper Sherman Creek, all values are within the ranges previously observed (Figures 70–76). Mean element concentrations were generally lower than the PEC freshwater sediment toxicity guidelines, except for concentrations of As, Cd, and Ni in East Fork Slate Creek; As in reference site Upper Sherman Creek; and Ni in reference sites Upper Slate Creek SP1 and SP2. For most sites As, Cu, Ni, and Zn concentrations were near or above the TEC freshwater sediment toxicity guidelines.

Among the Slate Creek sediment samples collected from 2011 to 2025, element concentrations at all sites, except East Fork Slate Creek, follow a similar trend. Slate Creek sites generally have naturally elevated concentrations of As, Cd, Cu, Ni, and Zn concentrations that are near or above the TEC freshwater sediment toxicity guidelines with Ni regularly above the PEC in reference and mine influence sampling sites. East Fork Slate Creek element concentrations are generally more variable with elevated As, Cd, Ni, Se, and Zn concentrations relative to the other sampling sites that are occasionally above the PEC, possibly related to the graphitic phyllite (acid-generating rock) uncovered during initial TTF dam construction nearly 20 years ago. Arsenic exceeded the PEC in 2025 for the 7th time since 2011; however, it is not used in the treatment process and may occur naturally.

With the exception of Ni, most metals concentrations were higher at Lower Johnson Creek than the newly added reference site at Upper Johnson Creek. Concentrations of Cu and As were above the TEC at Lower Johnson; however, concentrations of Cu at Upper Johnson Creek were also above the TEC.

Element concentrations at Upper and Lower Sherman Creek sites had mostly similar values with the exception of As concentrations at Upper Sherman Creek double that of lower and above the PEC. Concentrations of Cu, Cr, Ni, and Zn near or above the TEC freshwater sediment toxicity guidelines at both sites.

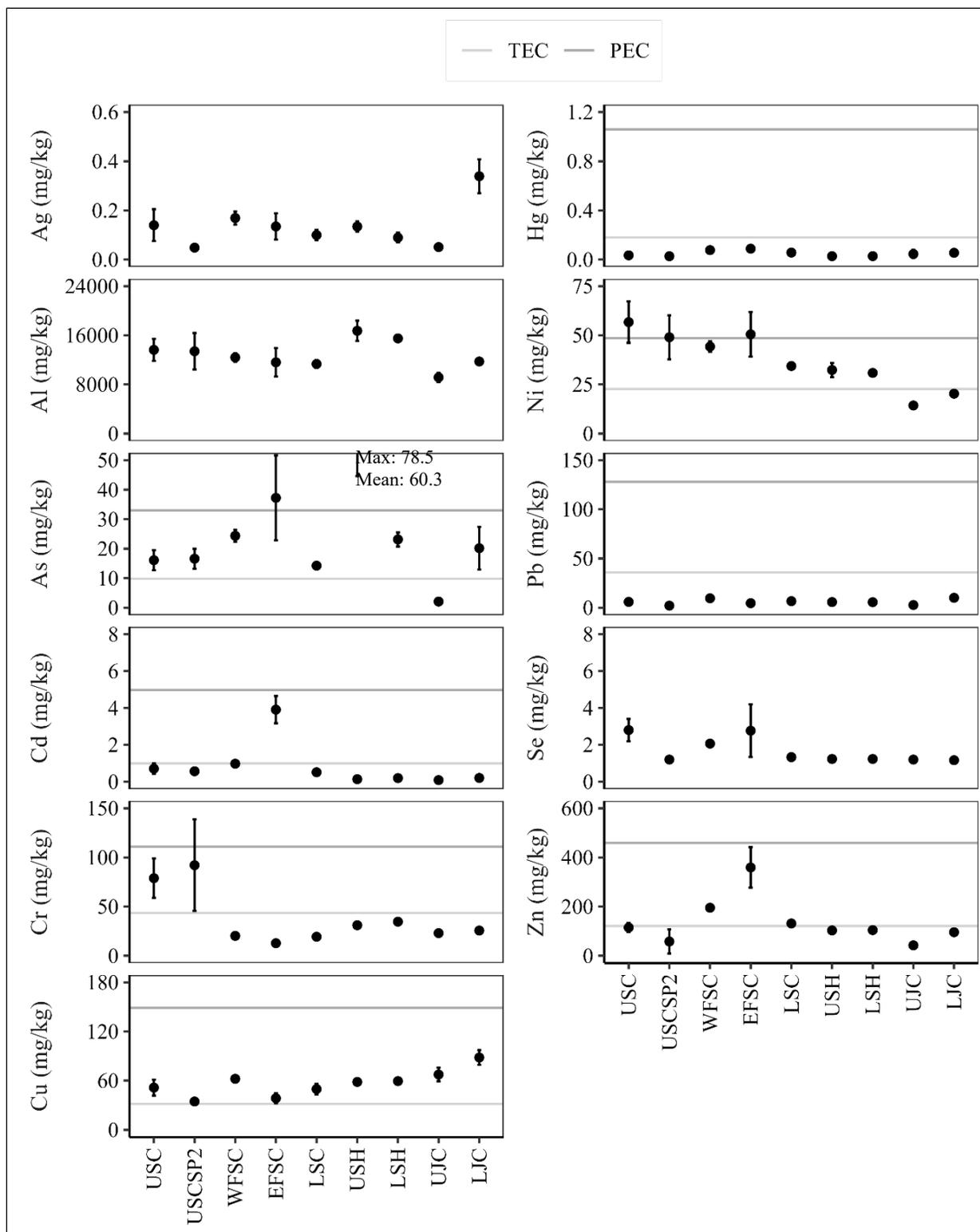


Figure 70.– Upper Slate SP1 (USC), Upper Slate SP2 (USCSP2), West Fork Slate (WFSC), East Fork Slate (EFSC), Lower Slate (LSC), Upper Sherman (USH), Lower Sherman (LSH), Upper Johnson Creek SP1 (UJC), and Lower Johnson (LJC) Creek element concentrations ± 1 SD, 2025.

Note: Elements undetected (o) are presented at the method reporting limit. TEC and PEC guidelines are not published for Ag, Al, or Se (Buchman 2008).

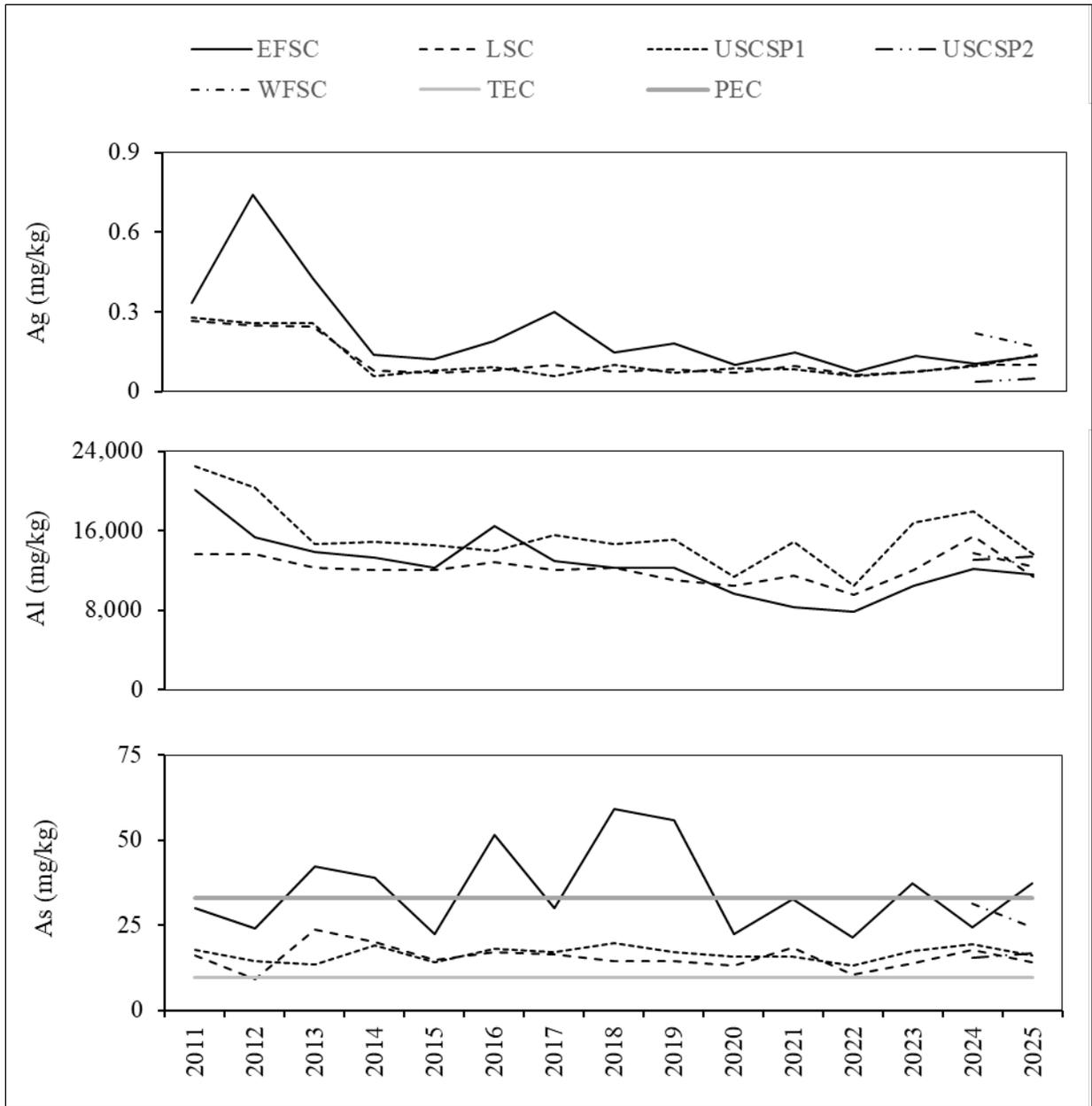


Figure 71.—East Fork Slate (EFSC), Lower Slate (LSC), Upper Slate SP1 (USCSP1), Upper Slate SP2 (USCSP2), and West Fork Slate (WFSC) Creek sediment sample mean Ag, Al, and As concentrations, 2011–2025.

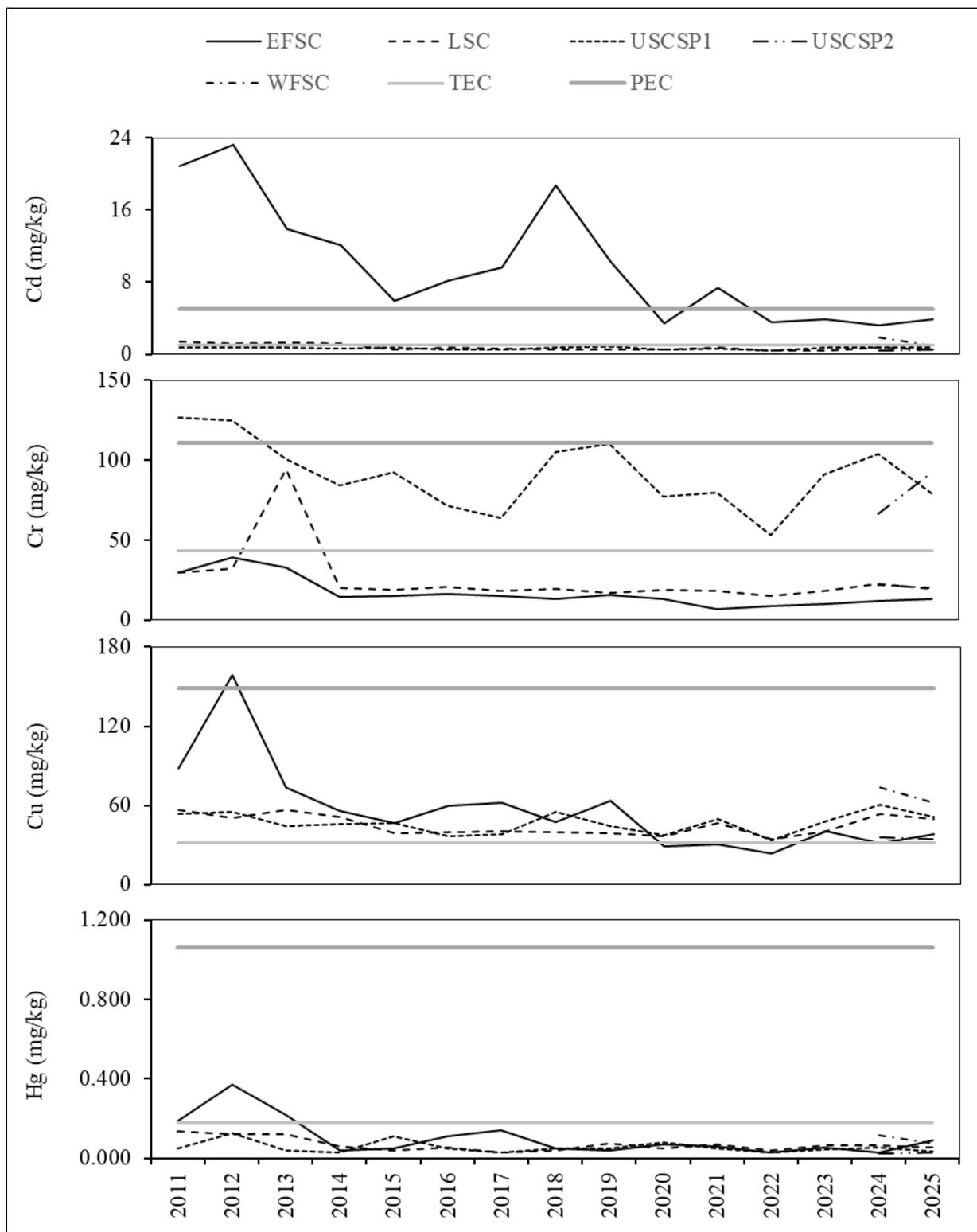


Figure 72.—East Fork Slate (EFSC), Lower Slate (LSC), Upper Slate SP1 (USCSP1), Upper Slate SP2 (USCSP2), and West Fork Slate (WFSC) Creek sediment sample mean Cd, Cr, Cu, and Hg concentrations, 2011–2025.

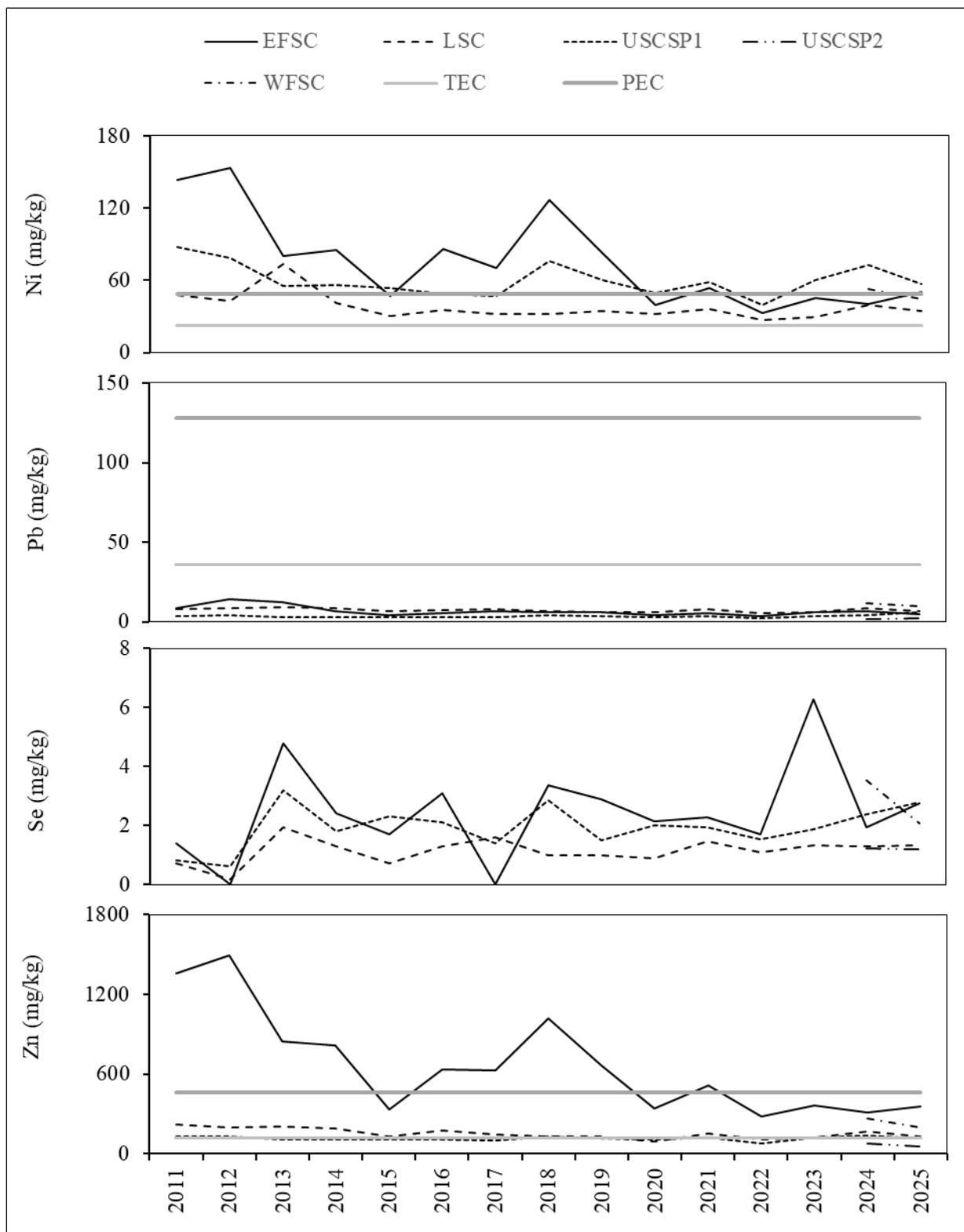


Figure 73.—East Fork Slate (EFSC), Lower Slate (LSC), Upper Slate SP1 (USCSP1), Upper Slate SP2 (USCSP2), and West Fork Slate (WFSC) Creek sediment sample mean Ni, Pb, Se, and Zn concentrations, 2011–2025.

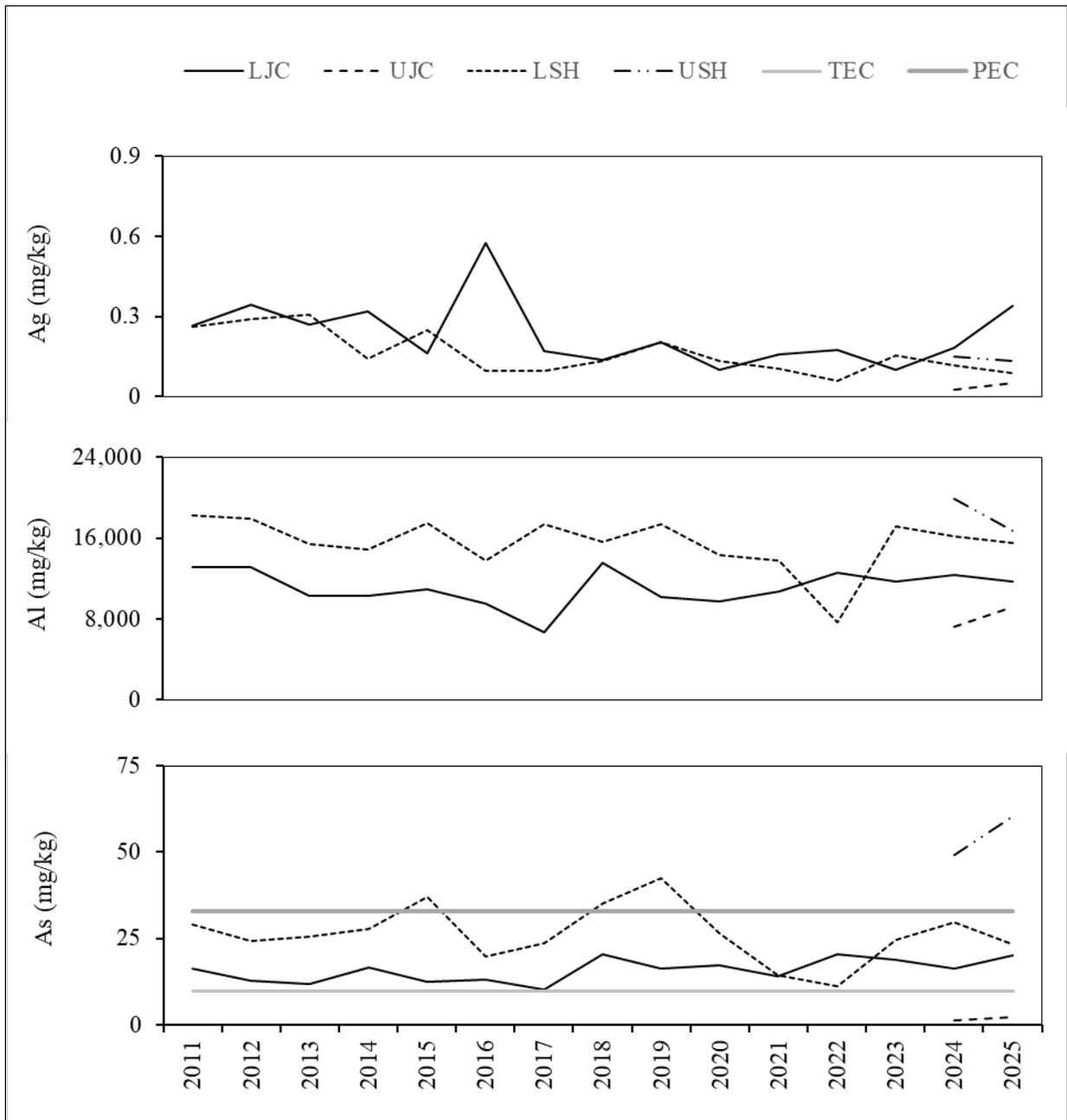


Figure 74.– Lower Johnson (LJC), Upper Johnson (UJC), Lower Sherman SP1 (LSH), and Upper Sherman (USH) Creek sediment sample mean Ag, Al, and As concentrations, 2011–2025.

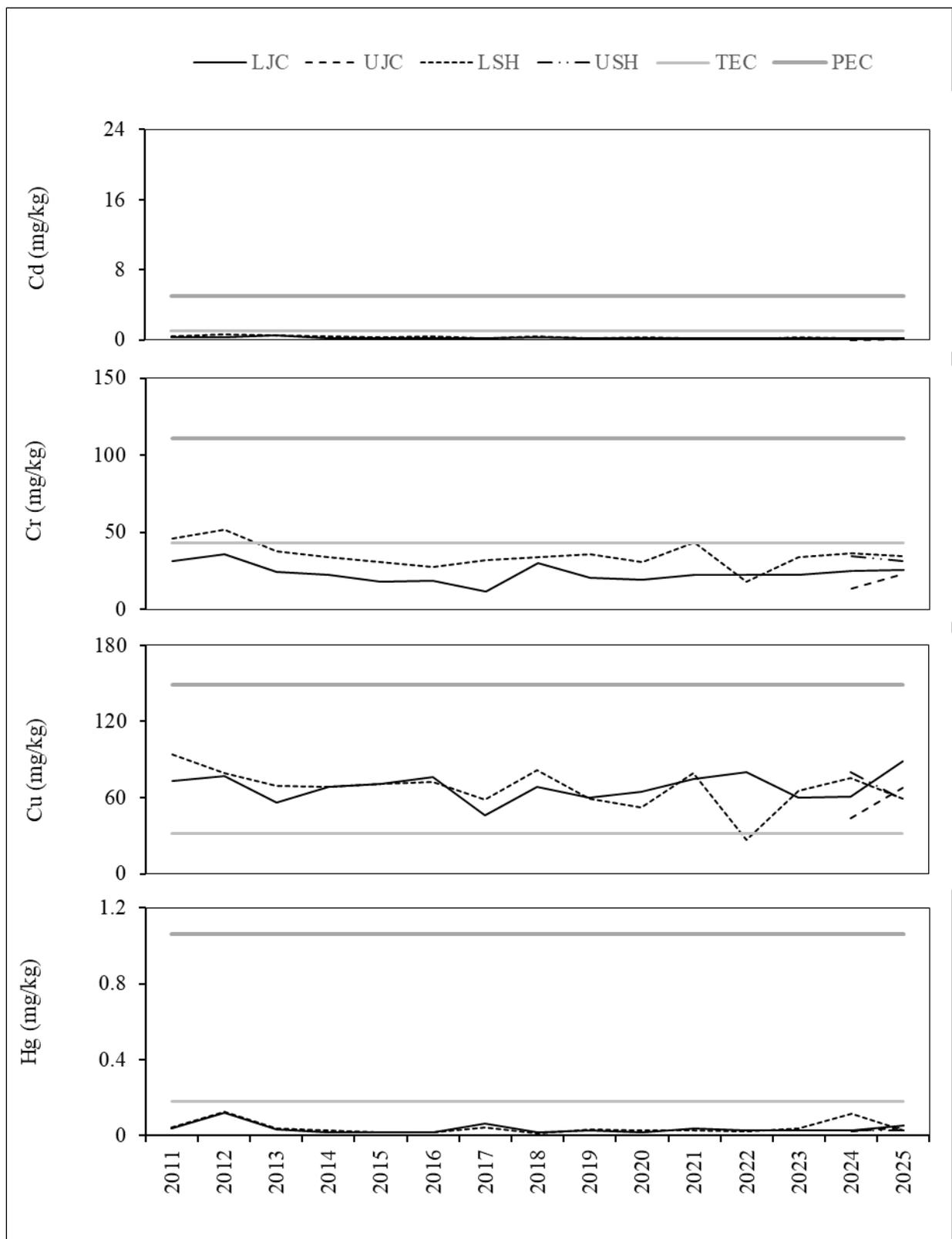


Figure 75.– Lower Johnson (LJC), Upper Johnson (UJC), Lower Sherman SP1 (LSH), and Upper Sherman (USH) Creek sediment sample mean Cd, Cr, Cu, and Hg concentrations, 2011–2025.

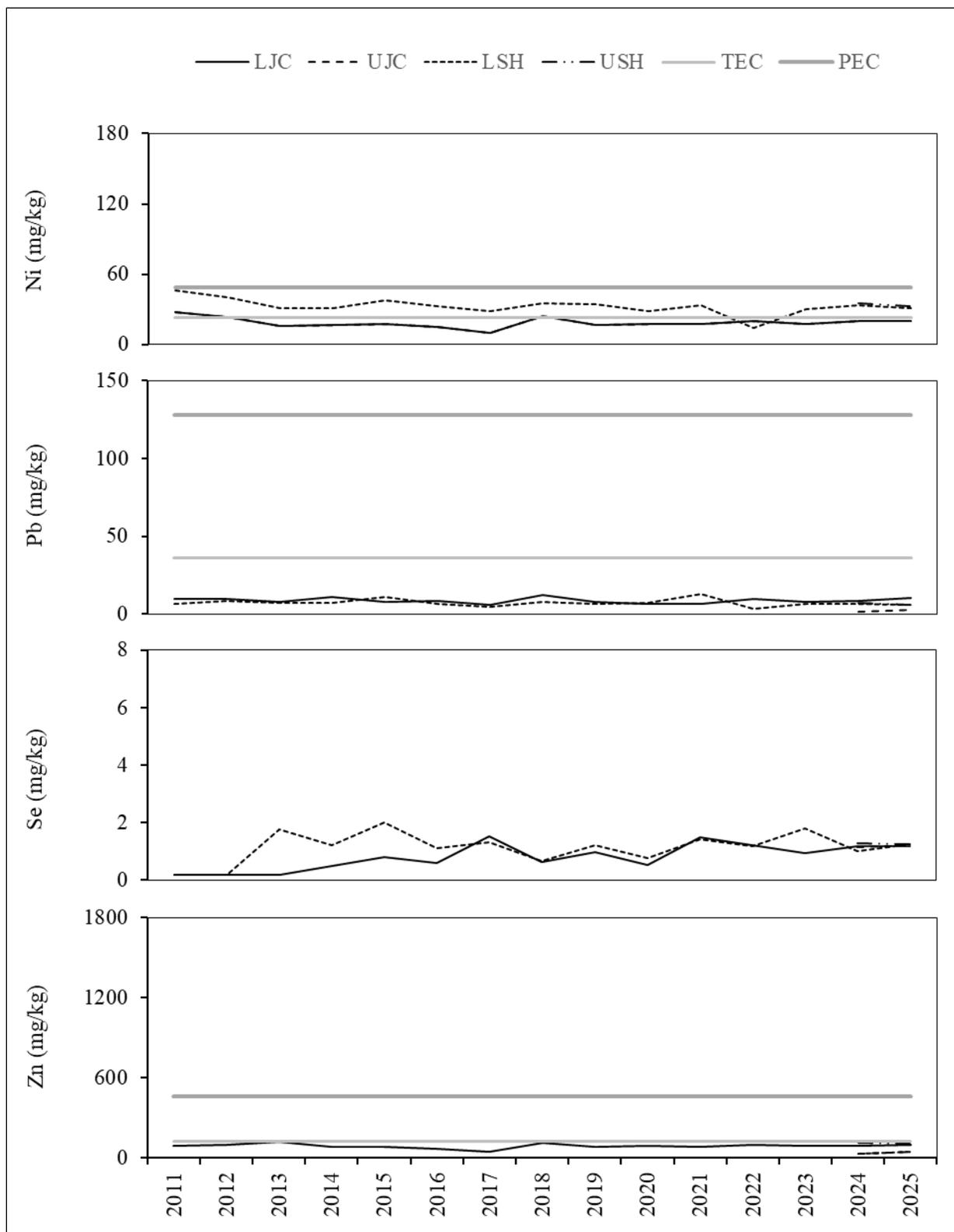


Figure 76.– Lower Johnson (LJC), Upper Johnson (UJC), Lower Sherman SP1 (LSH), and Upper Sherman (USH) Creek sediment sample mean Ni, Pb, Se, and Zn concentrations, 2011–2025.

Adult Salmon Counts

Foot and aerial counts of pink and chum salmon in Lower Slate and Johnson Creeks were as expected for an odd year when pink abundance is generally high in Northern Southeast (Figure 77). However, pink salmon abundance, based on an average of the three-day peak count, was only about 8% (39 fish) of the 2023 parent year run (477 fish) and the lowest observed odd year count since 2011. Of note, the Chilkoot and Chilkat Rivers to the north also had low pink salmon returns (N. Zeiser, Commercial Fisheries Division Biologist, ADF&G, Haines, personal communication). The low count in Sherman is noteworthy; however, it is not likely connected to the August 9, 2024 fish mortality event, which was after brood year pink salmon had already outmigrated to the ocean. We have since documented recolonization by resident fish downstream of Outfall 001 and in Lower Sherman Creek.

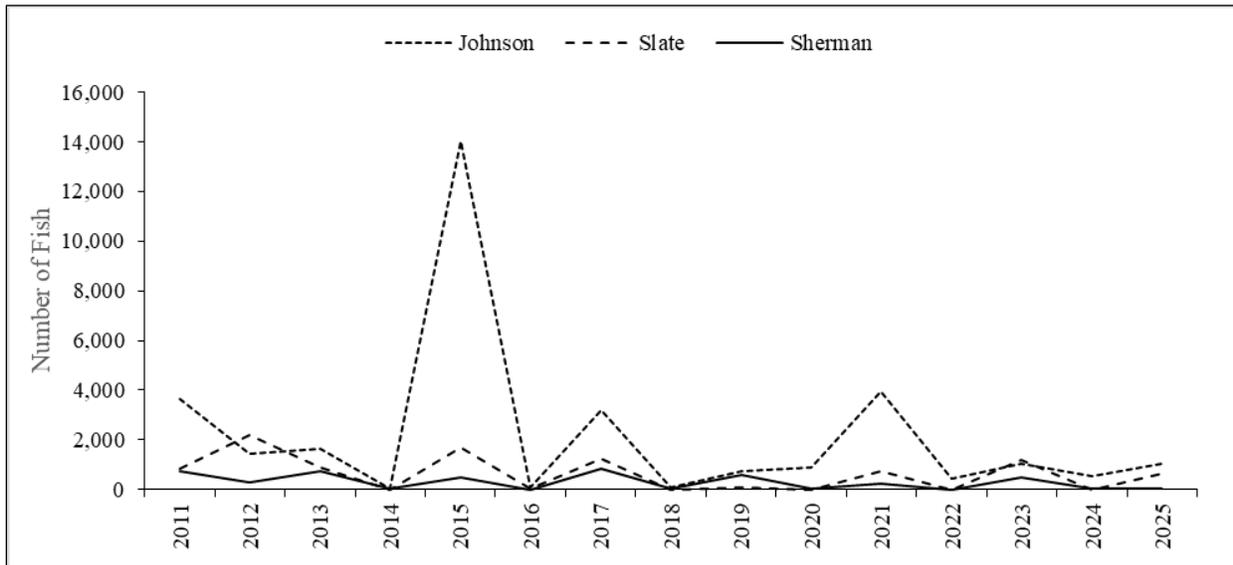


Figure 77.—Mean weekly pink salmon index peak counts from Johnson, Slate, and Sherman Creeks, 2011–2025.

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APPENDIX A: CHLOROPHYLL DATA

Appendix A.1.–Lower Slate Creek SP1 chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/29/11			07/25/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.21	0.05	0.00	1.60	0.13	0.07
	1.28	0.02	0.11	4.06	0.00	0.39
	0.85	0.01	0.07	2.03	0.00	0.18
	3.31	0.08	0.25	0.96	0.00	0.04
	11.85	3.11	0.30	2.56	0.04	0.22
	18.05	0.42	0.91	0.92	0.00	0.01
	0.72	0.13	0.00	1.49	0.13	0.13
	0.43	0.05	0.00	2.35	0.12	0.19
	8.54	0.39	0.58	6.19	0.05	0.54
	6.30	0.03	0.38	0.96	0.00	0.06
mean	5.15	0.43	0.26	2.31	0.05	0.18
maximum	18.05	3.11	0.91	6.19	0.13	0.54
minimum	0.21	0.01	0.00	0.92	0.00	0.01
mg/m ²	07/31/13			07/30/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	14.10	0.00	1.56	0.00	0.00	0.00
	20.72	0.00	3.11	9.29	3.22	0.48
	10.89	0.00	1.01	1.45	0.00	0.23
	17.84	0.00	2.66	12.18	5.27	0.38
	2.14	0.00	0.24	0.75	0.00	0.05
	6.09	0.00	0.95	4.70	0.00	0.67
	15.49	0.00	1.99	2.88	0.00	0.49
	12.71	0.00	1.58	1.82	0.00	0.15
	11.32	0.00	1.87	0.73	0.00	0.07
	14.63	0.00	1.46	5.87	0.00	0.51
mean	12.59	0.00	1.64	3.97	0.85	0.30
maximum	20.72	0.00	3.11	12.18	5.27	0.67
minimum	2.14	0.00	0.24	0.00	0.00	0.00
mg/m ²	07/28/15			07/26/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.45	0.10	0.01	0.60	0.00	0.12
	3.06	0.00	0.28	15.27	0.00	2.14
	0.95	0.09	0.04	6.41	0.00	0.97
	0.85	0.00	0.06	2.35	0.00	0.22
	0.72	0.13	0.00	9.51	0.76	0.88
	2.24	0.44	0.12	2.88	0.66	0.20
	9.93	0.00	1.13	3.52	0.00	0.40
	0.19	ND	ND	2.03	0.00	0.28
	2.88	0.14	0.28	5.34	0.67	0.36
	0.32	0.01	0.00	4.70	0.00	0.65
mean	2.16	0.10	0.21	5.26	0.21	0.62
maximum	9.93	0.44	1.13	15.27	0.76	2.14
minimum	0.19	0.00	0.00	0.60	0.00	0.12

- continued -

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mg/m ²	07/24/17			08/07/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	3.84	0.33	0.19	2.35	0.00	0.42
	1.71	0.00	0.27	3.31	0.00	0.56
	1.60	0.00	0.26	7.16	0.00	1.27
	2.14	0.00	0.41	3.63	0.00	0.59
	2.14	0.06	0.09	1.17	0.00	0.19
	4.91	1.86	0.16	3.10	0.08	0.26
	0.87	0.00	0.14	4.45	0.00	0.61
	2.14	0.00	0.36	9.61	0.30	1.21
	1.60	0.05	0.11	1.50	0.00	0.26
	2.01	0.00	0.32	5.77	0.00	0.91
mean	2.30	0.23	0.23	4.21	0.04	0.63
maximum	4.91	1.86	0.41	9.61	0.30	1.27
minimum	0.87	0.00	0.09	1.17	0.00	0.19
mg/m ²	08/01/19			07/29/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	6.73	0.00	1.02	0.55	0.00	0.02
	66.22	0.00	12.14	0.28	0.00	0.00
	4.49	0.00	0.71	0.96	0.07	0.03
	22.11	0.00	3.96	1.71	0.00	0.12
	15.38	0.00	3.57	0.73	0.04	0.04
	94.62	0.00	17.74	0.64	0.00	0.01
	8.12	0.00	1.59	2.15	0.00	0.20
	39.41	0.00	6.52	0.27	0.03	0.00
	14.95	0.00	2.64	4.17	0.98	0.13
	65.04	0.00	15.02	0.73	0.00	0.00
mean	33.71	0.00	6.49	1.22	0.11	0.06
maximum	94.62	0.00	17.74	4.17	0.98	0.20
minimum	4.49	0.00	0.71	0.27	0.00	0.00
mg/m ²	07/29/21			07/25/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	3.95	0.00	0.61	5.66	0.00	0.81
	3.31	0.00	0.61	3.63	0.00	0.22
	3.31	0.40	0.33	6.91	0.00	0.88
	1.42	0.00	0.17	6.73	0.00	0.95
	4.81	0.00	0.6	0.77	0.09	0.10
	0.55	0.00	0.12	12.50	0.00	1.84
	0.43	0.00	0.07	0.53	0.07	0.15
	0.43	0.00	0.07	5.13	0.48	0.53
	1.55	0.00	0.28	0.85	0.00	0.11
	0.29	ND	ND	5.95	0.23	0.56
mean	2.01	0.04	0.32	4.87	0.09	0.62
maximum	4.81	0.40	0.61	12.50	0.48	1.84
minimum	0.29	0.00	0.07	0.53	0.00	0.10

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7/26/2023				7/23/2024		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	1.71	0	0.32	2.88	0	0.28
	11.85	0.57	1.6	0.22	ND	ND
	2.14	0	0.37	0.28	0	0
	4.7	0	0.47	0.22	ND	ND
	4.91	0	0.57	1.82	0	0.2
	11.96	0	1.73	0.23	0	0.03
	0.85	0	0.04	0.22	0.04	0.1
	5.45	0	0.72	0.21	0.02	0.1
	2.88	0	0.33	2.67	0	0.3
	1.6	0	0.2	2.03	0	0.26
mean	4.81	5.81	6.81	1.08	0.01	0.16
maximum	11.96	0.57	1.73	2.88	0.04	0.3
minimum	0.85	0	0.04	0.21	0	0

7/25/2025			
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	2.88	0.00	0.24
	2.67	0.00	0.18
	8.97	0.00	0.75
	8.76	0.00	0.70
	8.54	0.00	0.95
	3.10	0.28	0.36
	7.37	0.00	0.88
	4.91	0.00	0.45
	2.89	0.00	0.20
	10.36	1.16	0.80
mean	6.05	0.14	0.55
maximum	10.36	1.16	0.95
minimum	2.67	0.00	0.18

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.2.—West Fork Slate Creek chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/29/11			07/25/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	2.52	0.00	0.19	1.15	0.00	0.04
	4.70	0.00	0.43	0.41	0.00	0.08
	2.78	0.00	0.26	0.53	0.00	0.02
	3.35	0.00	0.04	0.64	0.00	0.16
	4.27	0.00	0.25	3.62	0.00	0.24
	4.91	0.00	0.42	0.85	0.00	0.14
	3.95	0.00	0.27	0.96	0.01	0.07
	3.10	0.00	0.25	0.41	0.00	0.08
	4.38	0.00	0.39	0.60	0.00	0.12
	5.23	0.00	0.20	0.96	0.00	0.06
mean	3.92	0.00	0.27	1.01	0.00	0.10
maximum	5.23	0.00	0.43	3.62	0.01	0.24
minimum	2.52	0.00	0.04	0.41	0.00	0.02
mg/m ²	07/31/13			07/30/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	4.70	0.00	0.74	0.32	0.00	0.01
	1.39	0.00	0.16	0.19	0.00	0.00
	13.14	0.00	2.19	0.75	0.00	0.05
	4.38	0.00	0.47	0.88	0.00	0.00
	1.28	0.00	0.11	1.60	0.00	0.19
	3.10	0.00	0.50	0.23	0.00	0.03
	3.74	0.00	0.53	0.41	0.00	0.00
	2.03	0.00	0.33	0.33	0.00	0.02
	5.02	0.00	0.67	1.18	0.00	0.13
	3.40	0.00	0.36	1.82	0.00	0.15
mean	4.22	0.00	0.61	0.77	0.00	0.06
maximum	13.14	0.00	2.19	1.82	0.00	0.19
minimum	1.28	0.00	0.11	0.19	0.00	0.00
mg/m ²	07/28/15			07/26/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	1.34	0.00	0.21	7.48	0.00	1.16
	0.92	0.00	0.01	4.70	0.00	0.71
	0.77	0.02	0.03	3.22	0.00	0.25
	0.54	0.05	0.00	5.34	0.00	0.61
	0.19	ND	ND	2.67	0.00	0.34
	1.64	0.00	0.04	3.31	0.00	0.45
	2.35	0.00	0.21	4.27	0.00	0.44
	0.53	0.12	0.00	0.92	0.00	0.01
	0.56	0.00	0.06	10.89	0.00	1.64
	0.32	0.05	0.00	6.51	0.00	0.95
mean	0.92	0.03	0.06	4.93	0.00	0.66
maximum	2.35	0.12	0.21	10.89	0.00	1.64
minimum	0.19	0.00	0.00	0.92	0.00	0.01

- continued -

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mg/m ²	07/24/17			07/25/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	5.13	0.00	0.60	1.17	0.00	0.22
	5.13	0.00	0.96	4.17	0.00	0.86
	1.82	0.00	0.19	2.35	0.00	0.32
	3.95	0.00	0.83	5.02	0.00	0.93
	5.87	0.00	1.22	5.55	0.00	1.22
	8.22	0.00	1.38	4.91	0.00	1.12
	8.22	0.00	1.58	3.10	0.00	0.53
	3.74	0.00	0.53	1.71	0.00	0.24
	2.78	0.00	0.33	4.38	0.00	0.75
	4.70	0.00	0.92	6.09	0.00	1.16
mean	4.96	0.00	0.85	3.85	0.00	0.74
maximum	8.22	0.00	1.58	6.09	0.00	1.22
minimum	1.82	0.00	0.19	1.17	0.00	0.22
mg/m ²	08/01/19			07/29/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.10	ND	ND	1.84	0.00	0.24
	4.17	0.00	0.49	1.65	0.00	0.27
	6.15	0.00	0.88	1.65	0.00	0.27
	1.28	0.00	0.14	ND	ND	ND
	3.42	0.00	0.27	1.42	0.00	0.17
	7.38	0.00	1.17	0.50	0.00	0.13
	4.04	0.00	0.34	0.28	0.00	0.03
	0.73	0.00	0.16	0.78	0.00	0.06
	2.14	0.00	0.19	0.96	0.00	0.10
	0.10	ND	ND	0.60	0.00	0.12
mean	2.95	0.00	0.46	1.08	0.00	0.15
maximum	7.38	0.00	1.17	1.84	0.00	0.27
minimum	0.10	0.00	0.14	0.28	0.00	0.03
mg/m ²	07/29/21			07/25/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	15.38	0.00	3.12	4.22	0.00	0.48
	15.27	0.00	2.99	3.62	0.00	0.46
	12.07	0.00	2.19	5.46	0.00	0.61
	13.95	0.00	2.38	3.53	0.00	0.41
	17.71	0.00	2.99	2.29	0.00	0.18
	10.93	0.00	2.03	1.6	0.00	0.17
	19.86	0.00	3.39	5.79	0.00	0.73
	15.56	0.00	2.49	2.89	0.00	0.3
	19.70	0.00	3.25	0.96	0.01	0.07
	16.13	0.00	2.76	5.41	0.00	0.81
mean	15.66	0.00	2.76	3.58	0.00	0.42
maximum	19.86	0.00	3.39	5.79	0.01	0.81
minimum	10.93	0.00	2.03	0.96	0.00	0.07

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7/26/2023				7/23/2024		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	22.77	0	3.29	0.22	ND	ND
	13.59	0	1.64	1.11	0	0
	15.04	0	2.6	0.22	ND	ND
	26.81	0	2.88	0.22	ND	ND
	16.86	0	2.15	0.22	ND	ND
	13.49	0	2.12	1.3	0.32	0.03
	1.07	0	0.29	0.22	ND	ND
	29.05	0	4.18	0.21	0.08	0.06
	10.7	0	1.71	0.22	ND	ND
	11.43	0	1.67	0.22	ND	ND
mean	16.08	0	2.25	0.42	0.13	0.03
maximum	29.05	0	4.18	1.3	0.32	0.06
minimum	1.07	0	0.29	0.21	0	0

7/25/2025			
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	12.44	0.00	2.06
	7.99	0.00	0.96
	5.45	0.00	0.94
	5.01	0.00	0.31
	3.63	0.00	0.53
	6.38	0.00	0.52
	0.85	0.00	0.27
	6.84	0.00	0.62
	7.58	0.00	1.18
	6.30	0.00	0.98
mean	6.25	0.00	2.25
maximum	12.44	0.00	4.18
minimum	0.85	0.00	0.29

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.3.—East Fork Slate Creek chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/28/11			07/24/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	9.51	2.16	0.24	11.53	3.24	0.28
	9.18	0.02	0.20	0.41	0.04	0.04
	1.28	0.03	0.00	0.88	0.00	0.05
	5.13	1.15	0.11	0.50	0.00	0.03
	16.02	0.18	0.44	3.42	0.00	0.11
	8.86	1.94	0.70	0.64	0.08	0.05
	4.70	0.70	0.13	18.58	0.00	0.66
	16.13	5.35	0.28	13.67	2.32	0.57
	4.91	0.49	0.12	0.69	0.00	0.00
	12.71	3.59	0.15	0.43	0.00	0.00
mean	8.84	1.56	0.24	5.08	0.57	0.18
maximum	16.13	5.35	0.70	18.58	3.24	0.66
minimum	1.28	0.02	0.00	0.41	0.00	0.00
mg/m ²	07/30/13			07/30/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	8.12	0.00	0.67	0.14	0.00	0.00
	0.24	ND	ND	0.64	0.00	0.07
	1.07	0.03	0.07	0.05	ND	ND
	0.32	0.07	0.00	0.75	0.14	0.10
	0.64	0.10	0.00	0.05	ND	ND
	5.02	0.16	0.35	0.37	0.00	0.00
	0.43	0.00	0.03	0.05	ND	ND
	6.41	0.11	0.50	0.11	0.00	0.00
	0.32	0.00	0.00	0.53	0.00	0.01
	0.24	ND	ND	0.05	ND	ND
mean	2.28	0.06	0.20	0.27	0.02	0.03
maximum	8.12	0.16	0.67	0.75	0.14	0.10
minimum	0.24	0.00	0.00	0.05	0.00	0.00
mg/m ²	07/27/15			07/25/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.85	0.00	0.12	0.23	0.00	0.03
	0.19	ND	ND	4.91	0.00	0.69
	1.92	0.00	0.09	0.75	0.00	0.05
	0.96	0.00	0.09	1.42	0.00	0.14
	1.60	0.00	0.22	0.85	0.02	0.17
	5.34	0.00	0.55	1.56	0.00	0.12
	2.14	0.00	0.09	0.64	0.00	0.08
	0.37	0.00	0.00	0.19	ND	ND
	0.92	0.00	0.11	0.87	0.00	0.02
	1.28	0.00	0.08	0.64	0.00	0.06
mean	1.56	0.00	0.15	1.21	0.00	0.15
maximum	5.34	0.00	0.55	4.91	0.02	0.69
minimum	0.19	0.00	0.00	0.19	0.00	0.02

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mg/m ²	07/25/17			07/24/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.56	0.00	0.00	0.64	0.00	0.00
	0.51	0.00	0.00	2.14	0.00	0.12
	0.27	0.03	0.00	1.39	0.00	0.00
	0.41	0.00	0.08	0.75	0.00	0.02
	0.96	0.00	0.00	4.91	0.00	0.92
	0.85	0.00	0.15	0.69	0.00	0.00
	0.32	0.00	0.08	0.88	0.00	0.05
	1.74	0.00	0.16	1.61	0.00	0.11
	0.32	0.00	0.08	2.71	0.00	0.36
	0.46	0.00	0.00	0.96	0.00	0.00
mean	0.64	0.00	0.06	1.67	0.00	0.16
maximum	1.74	0.03	0.16	4.91	0.00	0.92
minimum	0.27	0.00	0.00	0.64	0.00	0.00
mg/m ²	08/01/19			07/30/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.75	0.00	0.02	1.60	0.07	0.00
	1.92	0.00	0.33	1.84	0.00	0.05
	5.07	0.00	0.31	4.81	0.00	0.80
	1.60	0.00	0.19	0.92	0.00	0.04
	0.63	0.07	0.15	0.25	ND	ND
	9.51	0.00	1.15	1.28	0.00	0.19
	0.32	0.00	0.08	0.50	0.00	0.00
	0.85	0.01	0.07	0.51	0.00	0.00
	11.17	0.00	0.80	0.60	0.00	0.02
	3.30	0.00	0.34	1.60	0.05	0.11
mean	3.51	0.01	0.34	1.39	0.01	0.13
maximum	11.17	0.07	1.15	4.81	0.07	0.80
minimum	0.32	0.00	0.02	0.25	0.00	0.00
mg/m ²	07/29/21			07/26/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	1.92	0.00	0.25	1.41	0.01	0.21
	0.32	0.06	0.05	1.05	0.00	0.06
	0.43	0.07	0.10	0.75	0.00	0.00
	2.09	0.06	0.35	0.43	0.00	0.07
	0.55	0.00	0.12	3.08	0.32	0.12
	0.29	ND	ND	0.82	0.00	0.12
	0.56	0.00	0.06	1.17	0.00	0.16
	0.85	0.00	0.04	2.99	0.29	0.21
	0.33	0.00	0.02	2.21	0.00	0.03
	0.64	0.00	0.16	0.64	0.00	0.08
mean	0.80	0.02	0.13	1.46	0.06	0.11
maximum	2.09	0.07	0.35	3.08	0.32	0.21
minimum	0.29	0.00	0.02	0.43	0.00	0.00

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07/27/23				07/22/24		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	1.39	0.00	0.13	1.19	0.00	0.13
	0.75	0.03	0.28	1.92	0.00	0.16
	1.28	0.00	0.18	0.77	0.01	0.13
	1.79	0.00	0.05	2.88	0.00	0.38
	1.71	0.00	0.15	2.03	0.00	0.10
	0.75	0.03	0.08	1.33	0.00	0.08
	3.52	0.74	0.25	1.50	0.03	0.10
	5.66	0.00	0.26	1.28	0.00	0.07
	5.72	0.00	0.84	3.21	0.00	0.19
	2.11	0.00	0.24	5.34	0.00	0.80
mean	2.47	0.08	0.25	2.15	0.00	0.21
maximum	5.72	0.74	0.84	5.34	0.03	0.80
minimum	0.75	0.00	0.05	0.77	0.00	0.07

07/24/25			
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	ND	ND	ND
mean	ND	ND	ND
maximum	ND	ND	ND
minimum	ND	ND	ND

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.4.—Upper Slate Creek SP1 chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/29/11			07/24/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.41	0.00	0.00	2.03	0.00	0.14
	0.32	0.00	0.04	0.96	0.00	0.09
	0.96	0.01	0.07	0.75	0.00	0.00
	0.11	0.00	0.00	0.50	0.00	0.03
	2.67	0.00	0.26	2.03	0.00	0.14
	0.28	0.00	0.00	1.07	0.00	0.14
	0.60	0.00	0.12	0.55	0.00	0.02
	1.14	0.00	0.01	1.71	0.00	0.06
	0.53	0.00	0.00	2.14	0.00	0.12
	0.60	0.00	0.02	0.83	0.00	0.00
mean	0.76	0.00	0.05	1.26	0.00	0.07
maximum	2.67	0.01	0.26	2.14	0.00	0.14
minimum	0.11	0.00	0.00	0.50	0.00	0.00
mg/m ²	07/30/13			07/30/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	1.82	0.00	0.27	0.92	0.00	0.11
	0.85	0.01	0.07	1.20	0.00	0.07
	2.94	0.00	0.13	1.52	0.00	0.06
	1.39	0.00	0.12	1.82	0.00	0.15
	2.99	0.00	0.11	0.85	0.00	0.00
	4.59	0.00	0.20	0.64	0.00	0.01
	0.85	0.00	0.01	1.18	0.00	0.07
	2.03	0.00	0.20	0.96	0.00	0.00
	0.85	0.00	0.00	0.64	0.00	0.01
	2.94	0.00	0.20	1.17	0.00	0.12
mean	2.13	0.00	0.13	1.09	0.00	0.06
maximum	4.59	0.01	0.27	1.82	0.00	0.15
minimum	0.85	0.00	0.00	0.64	0.00	0.00
mg/m ²	07/27/15			07/25/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.37	0.00	0.08	1.15	0.00	0.07
	0.64	0.00	0.08	8.86	0.00	1.12
	0.64	0.00	0.07	1.52	0.00	0.06
	0.51	0.00	0.06	5.34	0.00	0.93
	0.43	0.00	0.08	2.85	0.00	0.14
	0.55	0.00	0.28	1.01	0.00	0.09
	0.64	0.00	0.02	4.81	0.00	0.40
	0.64	0.00	0.08	2.40	0.16	0.21
	0.69	0.00	0.00	4.49	0.00	0.36
	1.17	0.00	0.13	6.19	0.00	0.79
mean	0.63	0.00	0.09	3.86	0.02	0.42
maximum	1.17	0.00	0.28	8.86	0.16	1.12
minimum	0.37	0.00	0.00	1.01	0.00	0.06

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mg/m ²	07/24/17			07/25/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.43	0.00	0.00	3.95	0.00	0.67
	1.06	0.00	0.00	3.31	0.00	0.73
	0.64	0.00	0.00	1.82	0.00	0.13
	0.50	0.00	0.03	2.88	0.00	0.37
	0.96	0.00	0.00	2.24	0.00	0.14
	1.17	0.00	0.03	1.17	0.00	0.03
	1.07	0.00	0.14	3.52	0.00	0.55
	0.64	0.00	0.00	2.56	0.00	0.35
	0.32	0.01	0.00	1.60	0.00	0.41
	1.47	0.00	0.23	2.67	0.00	0.18
mean	0.83	0.00	0.04	2.57	0.00	0.36
maximum	1.47	0.01	0.23	3.95	0.00	0.73
minimum	0.32	0.00	0.00	1.17	0.00	0.03
mg/m ²	08/01/19			07/30/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	24.88	0.00	1.78	2.46	0.00	0.05
	23.39	0.00	2.08	1.19	0.00	0.04
	2.78	0.00	0.16	1.52	0.00	0.00
	3.11	0.00	0.21	0.43	0.00	0.00
	2.43	0.00	0.23	0.97	0.00	0.03
	1.70	0.00	0.17	1.80	0.00	0.08
	7.67	0.00	0.57	0.96	0.00	0.10
	0.87	0.00	0.11	1.34	0.00	0.02
	3.71	0.00	0.29	0.11	0.00	0.18
	4.17	0.00	0.36	0.51	0.00	0.06
mean	7.47	0.00	0.60	1.13	0.00	0.06
maximum	24.88	0.00	2.08	2.46	0.00	0.18
minimum	0.87	0.00	0.11	0.11	0.00	0.00
mg/m ²	07/28/21			07/26/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	3.95	0.00	0.50	0.96	0.00	0.00
	5.41	0.00	0.49	2.14	0.00	0.32
	2.67	0.00	0.14	3.16	0.00	0.20
	0.53	0.01	0.18	0.41	0.00	0.00
	ND	ND	ND	1.79	0.00	0.05
	4.04	0.00	0.57	2.94	0.00	0.23
	0.29	ND	ND	0.83	0.00	0.05
	3.44	0.00	0.72	0.51	0.00	0.06
	1.60	0.00	0.25	0.43	0.00	0.00
	4.06	0.00	0.83	1.50	0.00	0.08
mean	2.89	0.00	0.46	1.47	0.00	0.10
maximum	5.41	0.01	0.83	3.16	0.00	0.32
minimum	0.29	0.00	0.14	0.41	0.00	0.00

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07/26/23				07/23/24		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	2.83	0.00	0.34	0.83	0.00	0.05
	2.39	0.00	0.17	1.10	0.00	0.15
	5.60	0.00	0.30	0.83	0.00	0.05
	6.88	0.00	0.26	0.37	0.00	0.01
	1.84	0.00	0.05	1.14	0.00	0.01
	4.91	0.00	0.36	0.54	0.05	0.00
	1.29	0.00	0.02	0.55	0.00	0.12
	2.53	0.00	0.25	0.87	0.00	0.02
	6.89	0.00	0.68	0.96	0.00	0.00
	15.91	0.00	2.29	0.22	ND	ND
mean	5.11	0.00	0.47	0.74	0.01	0.05
maximum	15.91	0.00	2.29	1.14	0.05	0.15
minimum	1.29	0.00	0.02	0.22	0.00	0.00

07/24/25			
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	6.53	0.00	0.53
	3.66	0.00	0.23
	2.43	0.00	0.23
	8.17	0.00	0.57
	4.40	0.00	0.33
	4.59	0.00	0.30
	2.97	0.00	0.32
	5.79	0.00	0.63
	3.85	0.00	0.30
	2.66	0.00	0.17
mean	4.51	0.00	0.36
maximum	8.17	0.00	0.63
minimum	2.43	0.00	0.17

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.5.—Upper Slate Creek SP2 chlorophylls *a*, *b*, and *c* densities, 2024–2025.

mg/m ²	7/23/2024			7/24/2025		
	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	1.92	0.00	0.17	7.58	0.00	0.52
	1.17	0.00	0.03	4.12	0.00	0.37
	0.88	0.00	0.05	5.03	0.48	0.19
	1.37	0.00	0.05	4.87	0.00	0.23
	2.67	0.00	0.33	4.64	0.00	0.29
	3.52	0.00	0.19	3.48	0.00	0.29
	2.21	0.00	0.06	2.11	0.00	0.24
	2.06	0.00	0.15	3.91	0.00	0.13
	0.74	0.00	0.00	2.90	0.00	0.13
	0.85	0.00	0.01	12.10	0.00	1.26
mean	1.74	0.00	0.10	5.07	0.05	0.37
maximum	3.52	0.00	0.33	12.10	0.48	1.26
minimum	0.74	0.00	0.00	2.11	0.00	0.13

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.6.–Lower Sherman Creek SP1 chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/28/11			07/26/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	1.28	0.00	0.05	1.07	0.00	0.14
	5.34	0.00	0.36	2.88	0.87	0.16
	5.98	0.00	0.54	0.41	0.04	0.04
	3.84	0.10	0.48	2.67	1.27	0.00
	15.59	3.98	0.17	0.60	0.00	0.12
	11.11	2.64	0.28	1.07	0.00	0.11
	19.33	0.00	1.65	3.63	1.56	0.03
	7.26	0.00	0.74	9.61	4.12	0.08
	1.92	0.04	0.19	2.99	1.43	0.02
	4.38	0.17	0.44	0.43	0.00	0.06
mean	7.60	0.69	0.49	2.54	0.93	0.08
maximum	19.33	3.98	1.65	9.61	4.12	0.16
minimum	1.28	0.00	0.05	0.41	0.00	0.00
mg/m ²	07/29/13			07/28/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	4.06	0.00	0.38	2.46	0.00	0.30
	5.55	0.00	0.73	0.74	0.00	0.10
	0.24	ND	ND	0.19	0.00	0.00
	4.67	0.00	0.55	0.92	0.00	0.14
	7.69	0.00	0.89	0.83	0.00	0.15
	7.37	0.00	0.62	2.99	0.00	0.47
	0.24	ND	ND	1.39	0.00	0.17
	2.67	0.00	0.35	2.46	0.00	0.25
	0.75	0.03	0.08	0.45	0.01	0.04
	ND	ND	ND	0.96	0.00	0.16
mean	3.69	0.00	0.51	1.34	0.00	0.18
maximum	7.69	0.03	0.89	2.99	0.01	0.47
minimum	0.24	0.00	0.08	0.19	0.00	0.00
mg/m ²	07/27/15			07/25/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.28	0.00	0.03	3.31	0.52	0.31
	0.19	ND	ND	4.27	0.00	0.76
	0.92	0.00	0.11	1.39	0.00	0.16
	0.64	0.00	0.01	2.14	0.00	0.37
	2.67	0.00	0.31	2.28	0.00	0.32
	0.79	0.00	0.00	13.24	6.47	0.31
	2.78	0.00	0.32	2.78	0.13	0.23
	0.19	ND	ND	2.24	0.00	0.31
	4.17	0.00	0.49	3.31	0.12	0.35
	1.01	0.00	0.09	2.03	0.20	0.17
mean	1.36	0.00	0.17	3.70	0.74	0.33
maximum	4.17	0.00	0.49	13.24	6.47	0.76
minimum	0.19	0.00	0.00	1.39	0.00	0.16

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mg/m ²	07/25/17			07/24/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	5.02	0.00	0.68	2.88	0.00	0.36
	5.13	0.00	0.93	3.95	0.00	0.50
	2.35	0.00	0.28	2.14	0.00	0.38
	2.99	0.00	0.40	2.43	0.00	0.23
	4.49	0.00	0.64	2.56	0.00	0.36
	3.84	0.00	0.55	2.06	0.00	0.15
	6.30	0.00	1.05	1.82	0.00	0.20
	4.06	0.00	0.63	4.58	0.00	0.63
	1.10	0.00	0.05	2.24	0.00	0.35
	3.31	0.00	0.39	1.71	0.00	0.15
mean	3.86	0.00	0.56	2.64	0.00	0.33
maximum	6.30	0.00	1.05	4.58	0.00	0.63
minimum	1.10	0.00	0.05	1.71	0.00	0.15
mg/m ²	08/02/19			07/29/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	ND	ND	ND	17.52	0.00	1.73
	0.10	ND	ND	8.01	0.00	0.80
	0.43	0.07	0.10	2.66	0.00	0.07
	0.50	0.00	0.13	5.55	0.35	0.29
	0.10	ND	ND	13.67	4.03	0.31
	5.66	0.47	0.45	0.25	ND	ND
	0.10	ND	ND	1.15	0.00	0.04
	5.02	0.00	0.66	6.51	0.00	0.48
	12.50	0.00	1.56	1.89	0.00	0.14
	0.21	0.00	0.03	5.13	0.00	0.41
mean	2.74	0.09	0.49	6.23	0.49	0.47
maximum	12.50	0.47	1.56	17.52	4.03	1.73
minimum	0.10	0.00	0.03	0.25	0.00	0.04
mg/m ²	07/28/21			07/26/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	7.47	0.00	1.03	3.16	0.00	0.27
	4.44	0.00	0.78	9.32	0.00	0.94
	6.83	0.00	1.05	1.42	0.00	0.17
	5.66	0.00	0.96	1.65	0.00	0.17
	7.29	0.00	1.02	0.98	0.18	0.46
	14.20	0.00	2.48	1.55	0.00	0.09
	5.23	0.00	0.77	5.45	0.00	0.68
	2.62	0.00	0.40	6.51	0.00	0.86
	5.34	0.00	0.95	8.28	0.00	0.89
	15.05	0.00	2.04	2.75	0.00	0.32
mean	7.41	0.00	1.15	4.11	0.02	0.49
maximum	15.05	0.00	2.48	9.32	0.18	0.94
minimum	2.62	0.00	0.40	0.98	0.00	0.09

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		7/27/2023			7/22/2024		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	
	5.64	0.00	0.75	1.92	0.00	0.35	
	6.25	0.00	0.70	2.99	0.00	0.27	
	5.66	0.00	0.41	3.95	0.00	0.41	
	9.10	0.00	0.84	7.58	0.00	1.10	
	7.69	0.00	0.83	1.17	0.28	0.07	
	6.41	0.00	0.66	0.60	0.00	0.12	
	4.49	0.00	0.48	0.22	ND	ND	
	3.72	0.00	0.28	0.64	0.00	0.07	
	0.96	0.00	0.09	2.99	0.02	0.20	
	1.42	0.00	0.17	2.88	0.03	0.10	
mean	5.13	0.00	0.52	2.49	0.04	0.30	
maximum	9.10	0.00	0.84	7.58	0.28	1.10	
minimum	0.96	0.00	0.09	0.22	0.00	0.07	
		7/24/2025					
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>				
	1.92	0.03	0.09				
	8.33	0.00	0.89				
	6.84	0.00	0.78				
	3.95	0.00	0.38				
	4.94	0.00	0.19				
	6.09	0.23	0.24				
	3.95	0.00	0.63				
	1.55	0.00	0.19				
	8.54	0.00	0.54				
	5.13	0.00	0.56				
mean	5.12	0.03	0.45				
maximum	8.54	0.23	0.89				
minimum	1.55	0.00	0.09				

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.7.–Lower Sherman Creek SP2 chlorophylls *a*, *b*, and *c* densities, 2011–2025.

mg/m ²	07/28/11			07/26/12		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	3.10	0.00	0.26	1.05	0.04	0.12
	6.30	0.19	0.62	0.64	0.00	0.11
	4.59	0.00	0.38	0.73	0.00	0.07
	0.32	0.00	0.00	0.50	0.07	0.10
	13.88	0.00	0.54	0.34	ND	ND
	7.37	0.00	0.46	0.51	0.00	0.06
	1.50	0.00	0.09	0.96	0.00	0.16
	14.31	0.00	0.59	0.37	0.00	0.00
	0.85	0.00	0.01	1.28	0.00	0.09
	3.84	0.00	0.25	0.34	ND	ND
mean	5.61	0.02	0.32	0.67	0.01	0.09
maximum	14.31	0.19	0.62	1.28	0.07	0.16
minimum	0.32	0.00	0.00	0.34	0.00	0.00
mg/m ²	07/29/13			07/28/14		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	1.07	0.00	0.14	0.74	0.00	0.10
	3.84	0.00	0.34	1.38	0.00	0.18
	0.96	0.00	0.15	2.83	0.00	0.15
	4.81	0.00	0.49	3.31	0.00	0.31
	5.77	0.00	0.78	0.75	0.00	0.06
	0.32	0.02	0.10	0.85	0.03	0.08
	4.70	0.00	0.44	0.85	0.00	0.01
	3.52	0.00	0.35	1.39	0.00	0.16
	0.53	0.00	0.02	0.43	0.01	0.04
	3.20	0.00	0.43	0.69	0.00	0.07
mean	2.87	0.00	0.32	1.32	0.00	0.12
maximum	5.77	0.02	0.78	3.31	0.03	0.31
minimum	0.32	0.00	0.02	0.43	0.00	0.01
mg/m ²	07/27/15			07/25/16		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.69	0.00	0.00	1.50	0.00	0.17
	0.96	0.00	0.00	2.03	0.00	0.30
	0.85	0.00	0.11	0.43	0.00	0.13
	1.28	0.00	0.16	2.98	0.00	0.38
	2.14	0.00	0.24	0.96	0.00	0.09
	3.63	0.65	0.43	1.28	0.04	0.26
	0.96	0.07	0.03	1.71	0.00	0.22
	2.14	0.78	1.30	1.92	0.35	0.16
	1.07	0.00	0.14	0.41	0.00	0.08
	2.46	0.00	0.24	0.96	0.00	0.06
mean	1.62	0.15	0.27	1.42	0.04	0.19
maximum	3.63	0.78	1.30	2.98	0.35	0.38
minimum	0.69	0.00	0.00	0.41	0.00	0.06

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mg/m ²	07/25/17			07/24/18		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.75	0.00	0.05	0.96	0.00	0.09
	0.85	0.01	0.07	1.38	0.00	0.21
	0.88	0.00	0.05	1.60	0.00	0.17
	0.69	0.00	0.07	0.53	0.00	0.02
	3.70	0.00	0.46	1.50	0.00	0.26
	0.69	0.00	0.07	1.60	0.00	0.23
	0.64	0.00	0.07	0.64	0.00	0.11
	1.82	0.00	0.20	4.17	0.00	0.58
	0.92	0.00	0.11	0.96	0.00	0.09
	0.55	0.00	0.02	1.60	0.00	0.15
mean	1.15	0.00	0.12	1.49	0.00	0.19
maximum	3.70	0.01	0.46	4.17	0.00	0.58
minimum	0.55	0.00	0.02	0.53	0.00	0.02
mg/m ²	08/02/19			07/29/20		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	0.43	0.00	0.03	5.42	0.04	0.33
	1.60	0.00	0.23	1.65	0.00	0.20
	6.84	0.00	1.07	2.78	0.29	0.20
	1.11	0.00	0.08	1.93	0.00	0.20
	1.33	0.00	0.18	4.38	0.48	0.25
	0.18	0.00	0.00	6.84	0.39	0.70
	5.02	0.00	0.63	5.18	0.00	0.45
	0.85	0.00	0.13	0.75	0.00	0.00
	2.14	0.00	0.31	30.44	5.80	1.15
	1.71	0.00	0.21	16.66	1.69	1.44
mean	2.12	0.00	0.29	7.60	0.87	0.49
maximum	6.84	0.00	1.07	30.44	5.80	1.44
minimum	0.18	0.00	0.00	0.75	0.00	0.00
mg/m ²	07/28/21			07/26/22		
	Chl-a	Chl-b	Chl-c	Chl-a	Chl-b	Chl-c
	4.50	0.00	0.71	0.82	0.00	0.12
	3.76	0.00	0.51	3.81	0.00	0.21
	1.60	0.00	0.14	4.38	0.00	0.29
	12.02	0.00	1.66	1.75	0.00	0.19
	4.17	0.00	0.50	0.85	0.03	0.08
	3.17	0.00	0.43	2.46	0.00	0.36
	5.73	0.00	0.77	5.34	0.00	0.39
	6.55	0.00	0.83	0.74	0.00	0.10
	5.34	0.00	0.72	3.63	0.00	0.50
	8.53	0.00	0.95	1.60	0.00	0.17
mean	5.54	0.00	0.72	2.54	0.00	0.24
maximum	12.02	0.00	1.66	5.34	0.03	0.50
minimum	1.60	0.00	0.14	0.74	0.00	0.08

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7/27/2023				7/22/2024		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	4.54	0	0.5	1.17	0	0.13
	0.85	0	0.04	0.27	0.03	0
	2.35	0	0.32	0.85	0	0.11
	5.77	0	0.61	3.42	0	0.49
	2.12	0	0.08	1.97	0	0.1
	2.88	0	0.28	2.98	0	0.38
	2.78	0	0.32	1.33	0	0.08
	0.21	0.05	0	5.23	0	0.76
	2.44	0	0.16	2.99	0	0.49
	2.62	0	0.3	1.71	0	0.05
mean	2.66	0.01	0.26	2.19	0	0.26
maximum	5.77	0.05	0.61	5.23	0.03	0.76
minimum	0.21	0	0	0.27	0	0
7/24/2025						
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>			
	3.52	0.00	0.25			
	2.03	0.00	0.23			
	2.89	0.00	0.30			
	3.95	0.00	0.32			
	6.84	0.00	0.98			
	3.72	0.25	0.13			
	4.17	0.01	0.21			
	3.53	0.00	0.28			
	5.13	0.00	0.60			
	2.99	0.00	0.32			
mean	3.88	0.03	0.36			
maximum	6.84	0.25	0.98			
minimum	2.03	0.00	0.13			

Note: Bold values are the spectrophotometer estimated detection limit, chlorophyll *a* not detected.

Appendix A.8.—Upper Sherman Creek chlorophylls *a*, *b*, and *c* densities, 2024–2025.

		7/22/2024			7/24/2025		
mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>	mg/m ²	Chl- <i>a</i>	Chl- <i>b</i>	Chl- <i>c</i>
	5.54	0.00	0.83		5.97	0.00	0.38
	0.85	0.00	0.14		9.61	0.00	1.53
	13.19	0.00	1.77		3.90	0.00	0.30
	5.66	0.00	0.92		4.23	0.00	0.32
	0.85	0.00	0.26		9.58	0.00	1.30
	1.71	0.00	0.15		4.31	0.00	0.37
	2.10	0.00	0.31		7.39	0.00	0.91
	4.17	0.00	0.53		5.98	0.00	0.66
	0.33	0.00	0.02		7.07	0.00	0.82
	3.42	0.00	0.46		15.74	0.00	1.65
mean	3.78	0.00	0.54	mean	7.38	0.00	0.82
maximum	13.19	0.00	1.77	maximum	15.74	0.00	1.65
minimum	0.33	0.00	0.02	minimum	3.90	0.00	0.30

APPENDIX B: BENTHIC MACROINVERTEBRATE DATA

Appendix B.1.–Lower Slate Creek SP1 BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	29	32	27	32	26	24	27	17	18	24
Total EPT Taxa	13	17	16	17	13	11	13	9	9	11
Total BMI Counted	1,148	1,760	1,200	2,308	1,901	1,894	730	269	521	674
Ephemeroptera	85	387	400	73	196	225	219	84	214	77
Plecoptera	70	274	203	352	258	61	145	37	85	44
Trichoptera	2	8	6	17	6	3	3	0	0	4
Aquatic Diptera	862	975	503	1,711	1,268	1,038	308	32	208	431
Other	129	116	88	155	173	567	55	116	14	118
% Ephemeroptera	7.4	22	33	3.2	10	12	30	31	41	11
% Plecoptera	6.1	16	17	15	14	3	20	14	16	7
% Trichoptera	0.2	0.5	0.5	0.7	0.3	0.2	0.4	0	0	0.6
% Aquatic Diptera	75	55	42	74	67	55	42	12	40	64
% Other	11	7	7.3	6.7	9	30	8	43	3	18
% EPT	14	38	51	19	24	15	50	45	57	19
% Chironomidae	72	53	35	68	64	51	36	11	29	57
Shannon Diversity Score	0.51	0.69	0.85	0.64	0.7	0.65	0.81	0.81	0.83	0.59
Evenness Score	0.48	0.58	0.7	0.52	0.58	0.57	0.73	0.84	0.81	0.56
Total Sample Area (m ²)	0.56	0.56	0.47	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	2,057	3,154	2,581	4,136	3,407	3,394	1,308	482	934	1,208
±1 SD	1,046	1,849	551	3,592	2,458	1,667	436	461	267	629
Terrestrial Invertebrates	0	4	0	1	3	88	1	0	7	1
Juvenile Fish	1	0	0	1	0	0	0	1	0	0

Appendix B.1.–Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	17	15	20	26	24
Total EPT Taxa	8	10	13	15	10
Total BMI Counted	237	452	533	800	1,444
Ephemeroptera	103	157	303	285	215
Plecoptera	14	17	112	68	38
Trichoptera	0	0	0	2	1
Aquatic Diptera	90	248	112	201	993
Other	30	30	6	244	197
% Ephemeroptera	43	34.7	56.8	35.6	14.9
% Plecoptera	6	3.8	21	8.5	2.6
% Trichoptera	0	0	0	0.2	0.1
% Aquatic Diptera	38	54.9	21	25.1	68.8
% Other	13	6.6	1.1	30.5	13.6
% EPT	49	38	78	44	18
% Chironomidae	31	53	19	23	66
Shannon Diversity Score	0.77	0.59	0.8	0.8	0.53
Evenness Score	0.82	0.65	0.77	0.71	0.48
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	425	810	955	1,434	2,588
±1 SD	167	358	320	548	1,088
Terrestrial Invertebrates	0	3	2	15	11
Juvenile Fish	0	1	0	0	3

Appendix B.2.–West Fork Slate Creek BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	21	31	28	29	28	25	21	18	16	18
Total EPT Taxa	11	21	18	17	16	15	13	12	11	12
Total BMI Counted	280	1,015	1,365	543	1,470	820	494	183	725	758
Ephemeroptera	181	634	991	223	956	564	311	115	560	465
Plecoptera	41	166	233	150	243	55	94	37	97	124
Trichoptera	3	11	10	15	10	10	2	2	0	6
Aquatic Diptera	35	175	118	136	215	151	77	22	67	160
Other	20	29	13	19	46	40	10	7	1	3
% Ephemeroptera	64.6	62.5	72.6	41.1	65	68.8	63	62.8	77.2	61.3
% Plecoptera	14.6	16.4	17.1	27.6	16.5	6.7	19	20.2	13.4	16.4
% Trichoptera	1.1	1.1	0.7	2.8	0.7	1.2	0.4	1.1	0	0.8
% Aquatic Diptera	12.5	17.2	8.6	25	14.6	18.4	15.6	12	9.2	21.1
% Other	7.1	2.9	1	3.5	3.1	4.9	2	3.8	0.1	0.4
% EPT	80	80	90	71	82	77	82	84	91	78
% Chironomidae	10	15	7	22	12	18	14	10	7	20
Shannon Diversity Score	0.63	0.84	0.73	0.91	0.82	0.72	0.78	0.72	0.64	0.75
Evenness Score	0.78	0.71	0.61	0.79	0.71	0.69	0.78	0.83	0.64	0.74
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	502	1,819	2,446	973	2,634	1,470	885	328	1,299	1,358
±1 SD	410	1,009	777	482	1,400	703	592	140	501	734
Terrestrial Invertebrates	2	0	0	0	1	7	0	2	1	2
Juvenile Fish	0	0	0	0	0	0	0	0	0	0

Appendix B.2.–Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	17	22	21	22	26
Total EPT Taxa	14	15	16	14	15
Total BMI Counted	401	802	1,107	1,012	1,496
Ephemeroptera	303	604	632	584	953
Plecoptera	60	82	387	190	158
Trichoptera	8	2	4	3	3
Aquatic Diptera	25	107	73	212	312
Other	5	7	11	23	70
% Ephemeroptera	75.6	75.3	57.1	57.7	63.7
% Plecoptera	15	10.2	35	18.8	10.6
% Trichoptera	2	0.2	0.4	0.3	0.2
% Aquatic Diptera	6.2	13.3	6.6	20.9	20.9
% Other	1.2	0.9	1	2.3	4.7
% EPT	93	86	92	77	74
% Chironomidae	6	11	5	20	20
Shannon Diversity Score	0.76	0.62	0.82	0.76	0.69
Evenness Score	0.75	0.57	0.72	0.68	0.64
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	719	1,437	1,984	1,814	2,681
±1 SD	452	427	888	448	1,454
Terrestrial Invertebrates	2	5	1	1	4
Juvenile Fish	0	0	0	0	0

Appendix B.3.—East Fork Slate Creek BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	27	33	33	24	28	21	27	26	25	26
Total EPT Taxa	15	17	17	9	16	11	13	15	15	14
Total BMI Counted	2,616	2,585	5,249	1,143	1,792	1,117	3,785	2,002	2,157	3,067
Ephemeroptera	387	490	19	9	274	227	310	99	306	314
Plecoptera	70	73	45	10	36	42	58	33	37	46
Trichoptera	28	23	66	3	14	40	33	21	38	33
Aquatic Diptera	507	547	598	454	633	398	1,281	732	535	835
Other	1,624	1,451	4,521	667	835	410	2,103	1,117	1,241	1,839
% Ephemeroptera	14.8	19	0.4	0.8	15.3	20.3	8.2	4.9	14.2	10.2
% Plecoptera	2.7	2.8	0.9	0.9	2	3.8	1.5	1.6	1.7	1.5
% Trichoptera	1.1	0.9	1.3	0.3	0.8	3.6	0.9	1	1.8	1.1
% Aquatic Diptera	19.4	21.2	11.4	39.7	35.3	35.6	33.8	36.6	24.8	27.2
% Other	62.1	56.2	86.1	58.4	46.6	36.7	55.6	55.8	57.5	60
% EPT	19	23	2	2	18	28	11	8	18	13
% Chironomidae	17	15	10	35	28	26	21	31	20	25
Shannon Diversity Score	0.64	0.78	0.57	0.7	0.92	0.92	0.62	0.54	0.62	0.56
Evenness Score	0.54	0.61	0.47	0.63	0.72	0.78	0.51	0.46	0.53	0.46
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.47	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	4,688	4,633	9,407	2,048	3,854	2,002	6,783	3,588	3,866	5,496
±1 SD	1,081	1,325	3,830	952	837	469	2,365	1,984	1,083	1,862
Terrestrial Invertebrates	3	1	0	0	5	11	0	0	2	0
Juvenile Fish	0	0	0	0	0	0	0	0	0	0

Appendix B.3.—Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	23	25	29	34	29
Total EPT Taxa	14	13	15	17	12
Total BMI Counted	1,918	1,726	3,713	4,832	5,629
Ephemeroptera	118	160	304	843	508
Plecoptera	54	7	94	93	40
Trichoptera	18	56	64	96	19
Aquatic Diptera	1,034	808	1,865	1,233	1,334
Other	694	695	1,386	2,567	3,728
% Ephemeroptera	6.2	9.3	8.2	17.4	9
% Plecoptera	2.8	0.4	2.5	1.9	0.7
% Trichoptera	0.9	3.2	1.7	2	0.3
% Aquatic Diptera	53.9	46.8	50.2	25.5	23.7
% Other	36.2	40.3	37.3	53.1	66.2
% EPT	10	13	12	21	10
% Chironomidae	45	43	47	24	23
Shannon Diversity Score	0.59	0.61	0.6	0.81	0.66
Evenness Score	0.52	0.53	0.47	0.61	0.52
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	3,437	3,093	6,654	8,659	10,088
±1 SD	1,256	1,131	1,939	3,218	1,976
Terrestrial Invertebrates	0	1	0	26	37
Juvenile Fish	0	0	0	0	0

Appendix B.4.–Upper Slate Creek SP1 BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	33	39	34	36	31	28	30	31	24	25
Total EPT Taxa	18	21	20	20	19	15	19	18	18	15
Total BMI Counted	1,408	1,259	1,607	1,744	2,107	1,338	1,132	864	912	543
Ephemeroptera	368	454	492	622	622	554	460	383	513	222
Plecoptera	401	349	604	429	758	252	172	175	213	116
Trichoptera	116	48	55	44	44	104	62	33	35	50
Aquatic Diptera	248	273	338	518	517	169	406	258	137	144
Other	275	135	118	131	166	259	32	15	14	11
% Ephemeroptera	26.1	36.1	30.6	36	29.5	41.4	40.6	44.3	56.3	40.9
% Plecoptera	28.5	27.7	37.6	25	36	18.8	15.2	20.3	23.4	21.4
% Trichoptera	8.2	3.8	3.4	2.5	2.1	7.8	5.5	3.8	3.8	9.2
% Aquatic Diptera	17.6	21.7	21	30	24.5	12.6	35.9	29.9	15	26.5
% Other	19.5	10.7	7.3	8	7.9	19.4	2.8	1.7	1.5	2
% EPT	63	68	72	63	68	68	61	68	83	71
% Chironomidae	15	20	19	28	22	11	34	28	11	22
Shannon Diversity Score	0.97	1.04	1.02	1.03	0.98	1.06	0.96	0.92	0.99	0.92
Evenness Score	0.76	0.79	0.78	0.76	0.74	0.82	0.73	0.75	0.8	0.78
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	2,523	2,256	2,880	3,125	3,776	2,398	2,029	1,548	1,634	973
±1 SD	1,173	1,321	1,049	660	1,174	520	1,143	574	170	295
Terrestrial Invertebrates	1	0	0	1	3	6	3	1	0	4
Juvenile Fish	0	0	0	0	0	0	0	0	2	0

Appendix B.4.–Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	28	29	27	36	30
Total EPT Taxa	18	20	18	21	18
Total BMI Counted	786	695	1,346	2,001	2,034
Ephemeroptera	426	315	695	1,234	985
Plecoptera	160	140	401	376	450
Trichoptera	47	25	64	30	49
Aquatic Diptera	133	202	179	264	302
Other	20	13	7	97	248
% Ephemeroptera	54.2	45.3	51.6	61.7	48.4
% Plecoptera	20.4	20.1	29.8	18.8	22.1
% Trichoptera	6	3.6	4.8	1.5	2.4
% Aquatic Diptera	16.9	29.1	13.3	13.2	14.8
% Other	2.5	1.9	0.5	4.8	12.2
% EPT	81	69	86	82	73
% Chironomidae	15	26	12	11	13
Shannon Diversity Score	0.97	0.98	0.94	0.96	1.01
Evenness Score	0.77	0.8	0.74	0.73	0.78
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	1,409	1,246	2,412	3,586	3,645
±1 SD	494	667	574	939	567
Terrestrial Invertebrates	2	2	1	4	3
Juvenile Fish	0	0	0	0	0

Appendix B.5.–Upper Slate Creek SP2 BMI data summary, 2024–2025.

	2024	2025
Total BMI Taxa	30	31
Total EPT Taxa	19	19
Total BMI Counted	2,572	1,972
Ephemeroptera	1,533	1,064
Plecoptera	474	446
Trichoptera	87	87
Aquatic Diptera	363	277
Other	115	98
% Ephemeroptera	59.6	54
% Plecoptera	18.4	22.6
% Trichoptera	3.4	4.4
% Aquatic Diptera	14.1	14
% Other	4.5	5
% EPT	81	81
% Chironomidae	13	13
Shannon Diversity Score	0.91	1.01
Evenness Score	0.7	0.77
Total Sample Area (m ²)	0.56	0.56
Mean BMI/m ²	4,609	3,534
±1 SD	1,749	1,111
Terrestrial Invertebrates	4	7
Juvenile Fish	0	0

Appendix B.6.–Lower Johnson Creek BMI data summary, 2024–2025.

	2024	2025
Total BMI Taxa	22	22
Total EPT Taxa	10	12
Total BMI Counted	1,052	570
Ephemeroptera	752	288
Plecoptera	113	40
Trichoptera	2	4
Aquatic Diptera	110	105
Other	75	133
% Ephemeroptera	71.5	50.5
% Plecoptera	10.7	7
% Trichoptera	0.2	0.7
% Aquatic Diptera	10.5	18.4
% Other	7.1	23.3
% EPT	82	58
% Chironomidae	9	17
Shannon Diversity Score	0.63	0.73
Evenness Score	0.59	0.75
Total Sample Area (m ²)	0.56	0.56
Mean BMI/m ²	1,885	1,022
±1 SD	1,285	535
Terrestrial Invertebrates	0	25
Juvenile Fish	0	4

Appendix B.7.—Upper Johnson Creek SP1 BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	24	28	34	32	28	32	33	31	25	31
Total EPT Taxa	14	14	24	21	17	21	19	20	18	19
Total BMI Counted	2,084	2,214	2,938	1,483	1,556	2,054	1,619	1,672	1,880	1,056
Ephemeroptera	962	1,139	1,680	740	917	1,160	651	935	1,195	688
Plecoptera	114	163	147	217	58	97	113	97	47	60
Trichoptera	59	118	95	68	137	198	54	80	79	53
Aquatic Diptera	619	586	799	407	366	476	773	542	543	244
Other	330	208	217	51	78	123	28	18	16	11
% Ephemeroptera	46	51	57	50	59	56	40	56	64	65
% Plecoptera	6	7.4	5	15	4	4.7	7	5.8	2.5	5.7
% Trichoptera	2.8	5.3	3.2	4.6	8.8	9.6	3.3	4.8	4.2	5
% Aquatic Diptera	29.7	26.5	27	27	23.5	23.2	47.7	32.4	28.9	23.1
% Other	15.8	9.4	7	3.4	5	6	1.7	1.1	0.9	1
% EPT	55	64	65	69	71	71	51	67	70	76
% Chironomidae	29	26	27	26	22	22	46	31	28	22
Shannon Diversity Score	0.76	0.81	0.74	0.74	0.87	0.88	0.68	0.81	0.71	0.77
Evenness Score	0.66	0.68	0.59	0.59	0.71	0.7	0.55	0.66	0.61	0.66
Total Sample Area (m ³)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	3,735	3,968	5,265	2,658	2,789	3,681	2,901	2,996	3,369	1,892
±1 SD	1,918	2,305	2,512	2,017	858	1,025	1,056	1,430	1,070	693
Terrestrial Invertebrates	1	1	1	4	1	2	6	1	11	2
Juvenile Fish	0	0	0	0	0	0	0	0	0	0

Appendix B.7.—Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	29	20	31	32	27
Total EPT Taxa	18	13	23	20	18
Total BMI Counted	1,470	1,380	3,954	1,927	1,947
Ephemeroptera	1,101	1,093	2,833	1,315	1,438
Plecoptera	33	28	495	82	70
Trichoptera	41	13	110	88	43
Aquatic Diptera	281	235	511	413	317
Other	14	11	5	29	79
% Ephemeroptera	75	79.2	71.6	68.2	73.9
% Plecoptera	2.2	2	12.5	4.3	3.6
% Trichoptera	2.8	0.9	2.8	4.6	2.2
% Aquatic Diptera	19.1	17	12.9	21.4	16.3
% Other	1	0.8	0.1	1.5	4.1
% EPT	80	82	87	77	80
% Chironomidae	18	17	12	20	15
Shannon Diversity Score	0.74	0.66	0.82	0.81	0.77
Evenness Score	0.63	0.62	0.64	0.69	0.67
Total Sample Area (m ³)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	2,634	2,473	7,086	3,453	3,489
±1 SD	1,122	725	2,417	1,370	654
Terrestrial Invertebrates	0	4	2	3	2
Juvenile Fish	0	0	0	0	0

Appendix B.8.—Upper Johnson Creek SP2 BMI summary, 2024–2025.

	2024	2025
Total BMI Taxa	36	30
Total EPT Taxa	21	20
Total BMI Counted	3,050	3,286
Ephemeroptera	1963	1,736
Plecoptera	345	231
Trichoptera	62	67
Aquatic Diptera	621	1,050
Other	59	202
% Ephemeroptera	64.4	52.8
% Plecoptera	11.3	7
% Trichoptera	2	2
% Aquatic Diptera	10.4	32
% Other	1.9	6.1
% EPT	78	62
% Chironomidae	18	29
Shannon Diversity Score	0.86	0.88
Evenness Score	0.67	0.69
Total Sample Area (m ²)	0.56	0.56
Mean BMI/m ²	5,466	5,889
±1 SD	3,902	5,841
Terrestrial Invertebrates	4	2
Juvenile Fish	0	0

Appendix B.9.–Lower Sherman Creek SP1 BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	26	31	28	30	26	26	25	26	25	24
Total EPT Taxa	15	18	16	13	13	13	13	16	14	14
Total BMI Counted	624	1,525	1,002	1,687	921	3,816	563	509	705	710
Ephemeroptera	157	876	499	114	175	101	88	293	404	179
Plecoptera	36	103	135	97	67	41	72	48	41	30
Trichoptera	7	14	6	18	6	9	16	11	4	3
Aquatic Diptera	89	160	131	648	326	273	123	51	228	322
Other	335	372	231	810	347	3,392	264	106	28	176
% Ephemeroptera	25	58	50	7	19	2.6	15.6	57.6	57.3	25.2
% Plecoptera	6	7	13	6	7	1.1	12.8	9.4	5.8	4.2
% Trichoptera	1.1	0.9	0.6	1.1	1	0.2	2.8	2.2	0.6	0.4
% Aquatic Diptera	14	11	13	38	35	7.2	21.8	10	32.3	45.4
% Other	54	24	23	48	38	88.9	46.9	20.8	4	24.8
% EPT	32	66	64	14	27	4	31	69	64	30
% Chironomidae	6	8	12	33	33	7	13	7	27	42
Shannon Diversity Score	0.76	0.74	0.85	0.71	0.84	0.32	0.81	0.73	0.79	0.64
Evenness Score	0.71	0.62	0.71	0.57	0.7	0.27	0.69	0.71	0.71	0.61
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	1,118	2,733	1,796	3,023	1,651	6,839	1,009	912	1,263	1,272
±1 SD	1,000	1,410	247	936	718	1,398	168	408	345	638
Terrestrial Invertebrates	1	0	14	1	14	21	1	0	2	0
Juvenile Fish	10	12	0	8	0	77	0	11	0	2

Appendix B.9.–Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	20	24	19	22	30
Total EPT Taxa	14	15	15	12	17
Total BMI Counted	552	839	1,099	2,064	1,764
Ephemeroptera	452	581	852	673	792
Plecoptera	25	32	75	64	76
Trichoptera	14	5	8	7	16
Aquatic Diptera	54	196	133	254	378
Other	7	25	31	1,066	502
% Ephemeroptera	81.9	69.2	77.5	32.6	44.9
% Plecoptera	4.5	3.8	6.8	3.1	4.3
% Trichoptera	2.5	0.6	0.7	0.3	0.9
% Aquatic Diptera	9.8	23.4	12.1	12.3	21.4
% Other	1.3	3	2.8	51.6	28.5
% EPT	89	74	85	36	50
% Chironomidae	9	21	9	11	18
Shannon Diversity Score	0.62	0.62	0.62	0.63	0.84
Evenness Score	0.62	0.56	0.55	0.55	0.71
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	989	1,504	1,970	3,699	3,161
±1 SD	464	462	1,058	1,543	1,490
Terrestrial Invertebrates	1	4	0	5	10
Juvenile Fish	0	0	0	3	0

Appendix B.10.–Lower Sherman Creek SP2 BMI data summary, 2011–2025.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total BMI Taxa	30	36	39	28	23	23	26	21	25	23
Total EPT Taxa	17	26	25	16	13	13	14	18	15	16
Total BMI Counted	921	1,573	1,889	661	898	1,045	239	543	906	486
Ephemeroptera	548	1,143	1,049	31	163	84	37	427	708	163
Plecoptera	137	77	299	40	47	32	25	39	35	32
Trichoptera	14	26	18	7	13	10	5	13	23	18
Aquatic Diptera	143	254	289	354	315	224	88	43	124	242
Other	79	75	234	229	360	695	84	21	16	31
% Ephemeroptera	60	73	56	4.7	18.2	8	15.5	78.6	78.1	33.5
% Plecoptera	15	4.9	16	6	5.2	3.1	10.5	7.2	3.9	6.6
% Trichoptera	1.5	1.7	1	1.1	1.4	1	2.1	2.4	2.5	3.7
% Aquatic Diptera	16	16	15	54	35.1	21.4	36.8	7.9	13.7	49.8
% Other	9	4.8	12	35	40.1	66.5	35.1	3.9	1.8	6.4
% EPT	76	79	72	12	25	12	28	88	85	44
% Chironomidae	11	15	14	48	33	20	24	6	11	44
Shannon Diversity Score	0.93	0.7	0.84	0.7	0.77	0.53	0.84	0.61	0.64	0.79
Evenness Score	0.76	0.57	0.65	0.62	0.66	0.49	0.8	0.57	0.6	0.73
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	1,651	2,823	3,385	1,185	1,609	1,873	428	973	1,624	871
±1 SD	927	1,174	1,471	769	748	982	219	370	712	410
Terrestrial Invertebrates	1	2	18	1	10	4	2	1	4	0
Juvenile Fish	0	0	14	0	0	6	0	13	0	0

Appendix B.10.–Continued.

	2021	2022	2023	2024	2025
Total BMI Taxa	26	18	24	29	31
Total EPT Taxa	18	12	16	19	18
Total BMI Counted	402	645	1,927	1,606	1,837
Ephemeroptera	288	494	1,485	917	832
Plecoptera	32	24	155	111	77
Trichoptera	13	2	11	17	27
Aquatic Diptera	61	108	211	142	297
Other	8	17	65	419	604
% Ephemeroptera	71.6	76.6	77.1	57.1	45.3
% Plecoptera	8	3.7	8	6.9	4.2
% Trichoptera	3.2	0.3	0.6	1.1	1.5
% Aquatic Diptera	15.2	16.7	10.9	8.8	16.2
% Other	2	2.6	3.4	26.1	32.9
% EPT	83	81	86	65	51
% Chironomidae	12	15	7	8	15
Shannon Diversity Score	0.76	0.54	0.73	0.75	0.8
Evenness Score	0.7	0.53	0.61	0.62	0.65
Total Sample Area (m ²)	0.56	0.56	0.56	0.56	0.56
Mean BMI/m ²	720	1,156	3,453	2,878	3,292
±1 SD	321	169	1,830	947	1,514
Terrestrial Invertebrates	0	1	1	0	17
Juvenile Fish	0	12	0	0	0

Appendix B.11.–Upper Sherman Creek BMI data summary, 2024–2025.

	2024	2025
Total BMI Taxa	32	42
Total EPT Taxa	20	26
Total BMI Counted	2,463	2,269
Ephemeroptera	1,893	1,537
Plecoptera	203	219
Trichoptera	48	61
Aquatic Diptera	308	378
Other	11	74
% Ephemeroptera	76.9	67.7
% Plecoptera	8.2	9.7
% Trichoptera	1.9	2.7
% Aquatic Diptera	12.5	16.7
% Other	0.4	3.3
% EPT	87	80
% Chironomidae	11	14
Shannon Diversity Score	0.68	0.78
Evenness Score	0.55	0.58
Total Sample Area (m ²)	0.56	0.56
Mean BMI/m ²	4,414	4,066
±1 SD	2,388	620
Terrestrial Invertebrates	3	11
Juvenile Fish	0	0

APPENDIX C: ADULT SALMON DATA

Appendix C.1.—Weekly total pink salmon counts by drainage and statistical week, 2011–2025.

Johnson Creek Pink Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	1	180	1,891	3,850	5,264	1,350	3,712	670	436	145	ND
2012	0	73	411	753	1,698	1,816	198	60	7	0	ND	ND
2013	59	200	2,250	1,456	1,873	1,557	545	149	97	ND	ND	ND
2014	ND	44	48	84	2	11	0	ND	ND	ND	ND	ND
2015	ND	4,512	568	17,517	19,028	5,444	2,057	1,238	702	249	10	ND
2016	ND	0	6	154	125	15	95	33	ND	ND	ND	ND
2017	109	1,222	3,291	2,272	3,364	4,010	5,165	1,775	1,587	288*	156*	0
2018	ND	42	90	91	145	66*	0	0	ND	ND	ND	ND
2019	ND	96	457	514	783	976	1,241	574	337	18	ND	ND
2020	ND	31	319	1,806	ND	ND	482	ND	99	ND	ND	ND
2021	ND	0	34	164	ND	8,394	3,236	2,380	ND	1,185	ND	ND
2022	ND	ND	ND	570*	ND	309	178*	30	ND	ND	ND	ND
2023	ND	ND	ND	580	1,020	1,523	1,022	ND	ND	ND	ND	ND
2024	ND	ND	ND	671	570	343	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	467	1,333	1,374	ND	ND	ND	ND	ND	ND

Slate Creek Pink Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	0*	0	369	763	1,394	1,646	1,807	229	46	0	ND
2012	0	0	364	1,106	3,152	2,331	318	1	0	ND	ND	ND
2013	0	7	66	604	864	1,199	472	97	27	1	ND	ND
2014	0	0	2	14	13	12	0	ND	ND	ND	ND	ND
2015	ND	12	487	1,769	1,783	1,543	850	527	575	32	2	ND
2016	ND	0	0	1	0	64	12	2	ND	ND	ND	ND
2017	0	0	7	386	477*	2,818	1,340*	1,811	577	ND	0	ND
2018	ND	0	ND	0	3	1	ND	ND	ND	ND	ND	ND
2019	ND	0	0	0	200	11	532	69	25	ND	ND	ND
2020	ND	0	1	0	ND	4	8	ND	2	ND	ND	ND
2021	ND	0	0	0	ND	1,156	1,055	1,336	ND	114	ND	ND
2022	ND	ND	ND	3	ND	5	11	4	ND	ND	ND	ND
2023	ND	ND	ND	129	1,369	2,138	635	ND	ND	ND	ND	ND
2024	ND	ND	ND	0	0	6	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	8	903	972	ND	ND	ND	ND	ND	ND

Sherman Creek Pink Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	1	298	773	1,049	397	157	870	416*	609	35*	ND
2012	0	2	9	97	285	521	521	145	25	3	ND	ND
2013	2	164	860	979	765	549	785	624	232	21	ND	ND
2014	ND	0	6	40	10	4	10	0	ND	ND	ND	ND
2015	ND	120	38	348	723	334	ND	413	648	159	15	ND
2016	ND	0	0	0	0	0*	24	2*	ND	ND	ND	ND
2017	0	4	61	778	1,076	730	941	781	841	478	ND	ND
2018	ND	0	0	4	81	1	ND	ND	ND	ND	ND	ND
2019	ND	0	214	438	850	460	220	322	237	75	ND	ND
2020	ND	0	0	17	0	74	99	ND	ND	ND	ND	ND
2021	ND	0	5	37	ND	368	254	222	ND	134	ND	ND
2022	ND	ND	ND	0	ND	17	2	0	ND	ND	ND	ND
2023	ND	ND	ND	453	357	622	ND	ND	ND	ND	ND	ND
2024	ND	ND	ND	2	16	42	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	1	33	83	ND	ND	ND	ND	ND	ND

Note: * = Incomplete survey.

Appendix C.2.—Weekly total chum salmon counts by drainage and statistical week, 2011–2025.

Johnson Creek Chum Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	2	14	0	0	5	0	0	0	0	0	ND
2012	0	51	47	1	0	0	0	0	0	ND	ND	ND
2013	2	0	12	0	3	0	0	0	0	ND	ND	ND
2014	ND	1	1	1	0	0	0	0	ND	ND	ND	ND
2015	ND	0	0	0	0	0	0	0	0	0	0	ND
2016	ND	0	7	2	4	20	0	6	ND	ND	ND	ND
2017	0	0	0	0	0	0	0	0	0	0*	0*	0
2018	ND	0	2	0	0	0*	ND	ND	ND	ND	ND	ND
2019	ND	138	146	43	5	1	1	0	0	0	ND	ND
2020	ND	1	1	3	ND	ND	0	ND	0	ND	ND	ND
2021	ND	0	0	0	ND	0	0	ND	ND	0	ND	ND
2022	ND	ND	ND	22*	ND	0	0*	0	ND	ND	ND	ND
2023	ND	ND	ND	0	0	0	0	ND	ND	ND	ND	ND
2024	ND	ND	ND	20	0	0	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	268	0	0	ND	ND	ND	ND	ND	ND

Slate Creek Chum Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	0	0	53	8	0	0	0	0	0	0	ND
2012	0	0	0	0	1	0	0	0	0	ND	ND	ND
2013	0	0	0	0	1	0	0	0	0	0	ND	ND
2014	0	0	0	0	0	0	0	ND	ND	ND	ND	ND
2015	ND	0	2	9	2	0	0	0	0	0	0	ND
2016	ND	0	0	4	10	10	20	1	ND	ND	ND	ND
2017	0	0	1	0	0*	0	0*	0	0	ND	0	ND
2018	ND	0	ND	0	0	0	ND	ND	ND	ND	ND	ND
2019	ND	0	0	0	ND	0	0	0	0	ND	ND	ND
2020	ND	0	0	0	ND	0	0	ND	0	ND	ND	ND
2021	ND	0	0	0	ND	0	0	0	ND	0	ND	ND
2022	ND	ND	ND	0	0	ND	0	0	ND	ND	ND	ND
2023	ND	ND	ND	0	0	0	0	ND	ND	ND	ND	ND
2024	ND	ND	ND	0	0	0	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	12	14	13	ND	ND	ND	ND	ND	ND

Sherman Creek Chum Salmon												
Year	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40
2011	ND	0	0	0	0	0	0	0	0*	0	0*	ND
2012	0	0	0	0	0	0	0	0	0	0	ND	ND
2013	0	2	4	6	0	0	0	0	0	0	ND	ND
2014	ND	0	0	0	0	0	0	0	ND	ND	ND	ND
2015	ND	0	0	1	0	0	ND	0	0	0	0	ND
2016	ND	0	0	0	0	0*	5	*	ND	ND	ND	ND
2017	0	2	5	47	62	6	0	0	0	0	ND	ND
2018	ND	0	0	0	6	1	ND	ND	ND	ND	ND	ND
2019	ND	0	48	66	29	2	2	0	0	0	ND	ND
2020	ND	0	0	0	0	0	ND	ND	ND	ND	ND	ND
2021	ND	0	0	0	ND	0	0	ND	ND	ND	ND	ND
2022	ND	ND	ND	0	ND	0	0	ND	ND	ND	ND	ND
2023	ND	ND	ND	9	2	0	ND	ND	ND	ND	ND	ND
2024	ND	ND	ND	0	0	0	ND	ND	ND	ND	ND	ND
2025	ND	ND	ND	0	6	0	ND	ND	ND	ND	ND	ND

Note: * = Incomplete survey.

Appendix C.3.—Weekly total coho salmon counts by drainage and statistical week, 2011–2025.

Johnson Creek Coho Salmon								
Year	Wk 38	Wk 39	Wk 40	Wk 41	Wk 42	Wk 43	Wk 44	Wk 45
2011	ND	ND	ND	ND	ND	15	9	9
2012	ND	33	40	5	0	5	3	4
2013	ND	22	16	ND	19	9	ND	ND
2014	ND	2	12	11	14	55	1	12
2015	ND	ND	ND	15	31	14	28	ND
2016	ND	ND	2	0	0	12	10	ND
2017	ND	0	4	56	5	18	38	ND
2018	ND	7	5	10	ND	0	14	ND
2019	ND	15	35	25	19	ND	9	ND
2020	ND	1	22	11	14	ND	1	ND
2021	ND	ND	115	17	ND	257	160	0
2022	ND	ND	ND	49	ND	3	ND	ND
2023	ND	ND	1	0	38	ND	ND	ND
2024	ND	ND	24	22	19	ND	ND	ND
2025	ND	ND	15	41	31	ND	ND	ND

Slate Creek Coho Salmon								
Year	Wk 38	Wk 39	Wk 40	Wk 41	Wk 42	Wk 43	Wk 44	Wk 45
2011	ND	ND	ND	ND	0	0	ND	ND
2012	ND	ND	0	0	0	0	ND	ND
2013	ND	12	12	ND	2	ND	ND	ND
2014	ND	0	2	2	1	0	ND	ND
2015	ND	ND	ND	0	0	0	0	ND
2016	ND	ND	0	0	2	0	ND	ND
2017	ND	0	1	1	1	2	ND	ND
2018	ND	1	0	0	ND	0	0	ND
2019	ND	0	0	1	0	0	0	ND
2020	ND	ND	2	1	1	ND	0	ND
2021	ND	ND	0	0	ND	0	0	ND
2022	ND	ND	ND	0	ND	0	ND	ND
2023	ND	ND	0	0	0	ND	ND	ND
2024	ND	ND	0	0	0	ND	ND	ND
2025	ND	ND	0	2	0	ND	ND	ND

APPENDIX D: SEDIMENT DATA AND LAB REPORT

Appendix D.1.–Lower Slate Creek SP1 sediment compositions, 2011–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (> 2 mm)				
10/3/2011	2.0	4.0	94.0	0.4	78.00	3.38	<0.55	2.04
7/3/2012	2.0	0.0	98.0	0.1	79.22	3.37	<1.50	1.67
7/2/2013	2.0	2.0	96.0	0.0	74.57	1.63	ND	1.67
7/28/2014	2.3	3.8	91.8	0.9	75.4	3.22	<1.3	0.58
7/6/2015	1.8	3.1	72.2	22.8	84.4	ND	<1.2	0.47
7/5/2016	0.0	23.1	55.1	21.8	70.3	7.70	<2.5	0.59
7/7/2017	1.5	6.9	84.5	7.1	59.6	2.80	<3.2	0.49
6/28/2018	1.5	3.3	69.6	25.6	64.2	3.00	<2.9	0.42
7/22/2019	0.0	2.6	37.4	60.0	67.2	2.90	<2.6	0.37
7/8/2020	0.9	2.6	85.5	1.2	73.8	3.15	<1.4	0.61
7/8/2020	0.3	0.7	77.8	19.1	72.8	2.90	1.7	0.38
7/8/2020	0.3	0.4	84.5	13.0	74.1	2.80	1.33	0.40
7/7/2021	0.1	0.3	76.4	21.6	74.0	2.75	<1.3	0.35
7/7/2021	0.2	2.5	86.5	8.9	68.6	3.50	<1.5	0.56
7/7/2021	0.3	3.3	99.6	12.8	68.4	3.20	<4.8	0.59
7/5/2022	ND	1.4	84.6	14.0	70.4	2.40	<0.84	0.41
7/5/2022	ND	1.4	66.9	31.7	71.2	2.60	<0.82	0.47
7/5/2022	ND	1.6	81.0	17.4	69.5	2.70	<0.82	0.42
7/6/2023	0.5	2.0	83.1	15.9	70.6	2.20	<1.4	0.32
7/6/2023	0.9	4.0	76.5	23.0	67.9	2.00	<1.4	0.48
7/6/2023	1.1	2.0	83.2	14.8	72.1	1.90	<1.3	0.32
7/23/2024	0.4	3.8	97.8	7.0	62.7	2.70	<1.6	0.56
7/23/2024	0.4	1.0	99.3	4.0	64.6	2.60	<1.5	0.42
7/23/2024	0.3	1.9	94.4	3.7	66.7	2.90	<1.4	0.54
7/25/2025	0.6	1.5	92.7	7.9	66.5	4.20	<1.5	0.63
7/25/2025	0.8	0.7	77.3	22.8	69.6	3.90	<1.4	0.44
7/25/2025	0.6	0.9	87.5	14.8	67.2	4.10	<1.4	0.50

Note: In 2022, lab results did not distinguish between clay and silt. ND = no data.

Appendix D.2.—West Fork Slate Creek sediment compositions, 2024.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (> 2 mm)				
7/23/2024	0.1	4.0	77.8	24.8	61.2	6.6	<1.5	0.34
7/23/2024	0.3	1.7	74.7	28.4	64.0	4.0	<1.5	1.38
7/23/2024	0.1	7.7	94.5	2.2	57.8	5.3	<1.7	2.03
7/25/2025	0.9	4.2	89.0	3.7	58.7	6.1	<1.7	0.99
7/25/2025	0.8	1.9	96.0	3.5	63.3	5.2	<1.5	0.68
7/25/2025	0.9	0.1	0.7	4.9	64.9	4.4	<1.5	0.53

Appendix D.3.—East Fork Slate Creek sediment compositions, 2011–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (>2mm)				
10/3/2011	10	4	86	1.6	60.2	7.81	<0.55	11
7/10/2012	40	34	26	0	23.7	28.54	<1.5	16.7
7/1/2013	6	12	82	0	43.7	13.3	ND	18.3
7/30/2014	3.8	21.1	75	0	65.5	6.21	<1.5	1.84
7/7/2015	2.3	6.9	82.3	8.5	76.2	ND	<1.3	0.792
7/6/2016	3.5	24.8	53.7	18	21	31.4	<6.8	13
7/7/2017	34.9	32.2	28.8	4	18.9	32.5	<9	16.3
6/29/2018	1.5	6.5	53.5	38.5	74.8	6.7	<1.8	1.75
7/22/2019	0.5	4.5	47.5	47.5	39.1	9.3	<4.5	1.72
7/9/2020	0.9	2.7	59.8	48.9	61.6	7.6	4.8	2.68
7/9/2020	0.9	2.2	24.6	58.6	77.4	3.2	2.1	7.52
7/9/2020	0.6	0.1	31.3	63.8	81.4	3.8	1.9	1.21
7/6/2021	0.1	0.3	17.9	63.1	75.3	3.8	<0.4	0.307
7/6/2021	0.2	0.3	35.9	67.3	72.7	3.5	<0.4	0.733
7/6/2021	0.1	0.3	36.4	58.1	77	4.9	<1.2	5.36
7/6/2022	1.5	3.2	58.6	34	76.5	3.4	<0.74	2.72
7/6/2022	0.8	5.2	35	57.1	84.6	3.4	0.71	2.65
7/6/2022	1.5	6.6	79.2	4.1	84	2.4	<0.69	3.19
7/5/2023	2	11.7	33.1	57.3	55.3	4.3	<1.6	3.07
7/5/2023	0.3	2.5	35	64.8	70.9	5.1	<1.3	1.59
7/5/2023	0.7	3	54.8	39.6	68.4	3.7	<1.4	1.31
7/22/2024	0.3	0.9	89.1	12.4	57	8	<1.7	4.05
7/22/2024	0.1	0.4	11.8	98.8	67.3	5.1	<1.4	2.76
7/22/2024	0.1	0.5	31.2	75.6	70.8	3.1	<1.3	1.03
7/25/2025	0.9	1.6	70.8	ND	60.3	7.6	<1.6	2.15
7/25/2025	0.9	0.5	34.1	ND	67.3	5.4	<1.6	1.23
7/25/2025	0.9	0.9	80.6	ND	60.2	8	<1.6	3.79

Note: ND = no data.

Appendix D.4.–Upper Slate Creek SP1 sediment compositions, 2011–2025

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (>2mm)				
10/6/2011	4	2	94	0	72.1	4.12	<1.5	5.46
7/2/2012	2	0	98	0.3	79.6	2.9	<1.5	3.74
7/1/2013	4	0	96	0.1	74.2	2.73	ND	5.5
7/30/2014	4.3	8.2	87.5	0	72.4	3.88	<1.4	0.868
7/7/2015	1.5	0.2	31.9	66.3	76.5	ND	<1.3	1.04
7/6/2016	0	2.9	73.1	24	62.9	5	<2.2	2.14
7/7/2017	3	4.6	89.9	2.5	72.7	3.45	<2.4	0.843
6/28/2018	2.7	5.3	80.6	11.4	67.6	4.1	<2.7	0.815
8/5/2019	2.5	0.3	60.5	36.6	72.4	3.75	<2.4	0.676
7/9/2020	0.6	0.3	12.4	97.4	76.9	3.5	2.5	0.328
7/9/2020	0.7	0.5	74.4	22.4	70.6	4.1	1.8	0.734
7/9/2020	0.6	0.4	52.3	41	75.5	4.5	2.9	1.05
7/7/2021	0.1	0.9	90.9	4.5	68.2	3.9	<1.5	0.871
7/7/2021	0	0.3	93.3	6.8	67.7	3.7	<1.5	0.585
7/7/2021	0.2	0.7	93.9	5.3	63.7	4.4	<5.2	0.818
7/6/2022	1.4	6	73.3	20.6	86.7	1.3	<0.69	0.775
7/6/2022	0.7	2.7	56.4	27	82.4	1.6	<0.72	0.694
7/6/2022	0.8	4.4	81.1	9.5	83.8	1.5	<0.71	0.72
7/5/2023	0.3	3.4	55.3	42.5	72.6	2.8	<1.3	0.47
7/5/2023	1.9	11.4	83.3	7.5	63.2	3.7	<1.6	0.89
7/5/2023	2.5	13.4	73.9	9.2	64.1	4	<1.5	1.34
7/23/2024	0.1	4.4	106.9	4.1	58.3	5.15	<1.6	1.29
7/23/2024	0	0.6	93.8	15	63.6	4.9	<1.5	0.8
7/23/2024	0	0.2	80.4	22.9	64.8	3.5	<1.5	0.71
7/24/2025	0.7	2.2	58.3	ND	65	6.2	<1.5	1.01
7/24/2025	1	2.8	53.4	ND	58.8	8.3	<1.7	1.27
7/24/2025	0.6	0.7	49.2	ND	70.5	3.9	<1.3	0.86

Note: ND = no data.

Appendix D.5.–Upper Slate Creek SP2 sediment compositions, 2024–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (> 2 mm)				
7/23/2024	0	1.2	39.6	65.4	65.6	3.5	<1.5	0.74
7/23/2024	0	0.2	38.0	71.7	74.0	2.2	<1.3	0.79
7/23/2024	0	0	34.6	72.3	75.5	1.6	<1.2	0.34
7/24/2025	0.6	0.5	51.2	54.4	68.5	3.2	<1.4	0.56
7/24/2025	0.6	1.5	50.9	50.1	68.1	5.3	<1.4	1.00
7/24/2025	0.6	0.5	49.9	59.1	69.5	4.2	<1.4	0.72

Appendix D.6.–Lower Johnson Creek sediment compositions, 2011–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (>2mm)				
10/3/2011	2	2	96	0	74.3	2.01	<0.55	0.89
7/2/2012	8	0	92	0	77.7	2.55	<1.5	1.19
7/1/2013	2	2	96	0.3	73.2	0.9	ND	1.08
7/30/2014	2.9	4.8	91.4	0.2	73.7	1.93	<1.4	0.263
7/6/2015	0.4	1.1	41.9	56.6	80	ND	<1.3	0.376
8/8/2016	5.1	25.4	69.4	0	71.9	2.4	<2.5	0.422
7/7/2017	4.1	20.8	72.6	2.5	ND	ND	ND	ND
6/29/2018	2.8	5.6	89.4	2.2	77.6	2.35	<2.5	0.483
7/22/2019	1.1	2.4	89.5	7	71.3	2.5	<2.8	0.452
7/9/2020	0.2	1	80.8	15.2	77.4	2.2	2.5	0.298
7/9/2020	0.6	1.7	88.2	6.5	74.2	2.4	3.6	0.341
7/9/2020	0.7	0.8	84.1	3.2	78.8	2.1	1.4	0.269
7/6/2021	0.1	3.8	97.2	1.8	65.4	2.2	<1.4	0.319
7/6/2021	0.2	2.1	87.3	4.7	72.1	2.4	<1.3	0.34
7/6/2021	0.2	2.9	101.6	0.1	62.5	3.4	<1.5	0.27
7/5/2022	2.1	8.6	89.1	0.1	64.3	2.45	<0.92	0.398
7/5/2022	4.2	4.5	89.2	2.1	66.5	2.4	<0.89	0.34
7/5/2022	5.3	18.7	74.7	1.4	59.4	3.7	<1	0.811
7/5/2023	1.7	5.6	86	6.1	71.5	1.75	<1.3	0.277
7/5/2023	1.5	8.1	81.5	9.8	69.4	2.1	<1.4	0.31
7/5/2023	2.2	8.8	74.4	19.6	65.4	1.9	<1.5	0.38
8/9/2024	0.2	3.1	72.6	19.8	70.2	2.05	<1.4	0.367
8/9/2024	0.2	0.3	92.4	11.7	69.8	1.8	ND	0.57
8/9/2024	0.3	5.2	83.3	2.2	72.4	2.1	ND	0.29
7/25/2025	1.1	9.6	90	ND	65	3.7	<1.4	0.65
7/25/2025	1.3	12	87.8	ND	64.9	3.9	<1.5	1.15
7/25/2025	1.3	8.3	89.7	ND	65.7	3.3	<1.4	0.41

Note: ND = no data.

Appendix D.7.–Upper Johnson Creek SP1 sediment compositions, 2024–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (> 2 mm)				
7/22/2024	0.2	1.9	66.8	31.1	79.8	1.1	<1.3	0.42
7/22/2024	0.2	1.4	71.5	36.2	68.9	1.1	<1.3	0.2
7/22/2024	0.3	0.7	87.8	11.1	72.3	1	<1.3	<.1
7/24/2025	0.7	3.8	87.7	9	71.1	1.8	<1.4	0.29
7/24/2025	1.3	8.6	79.1	13.3	73.7	3.7	<1.3	0.76
7/24/2025	0.7	4.8	89.9	2.9	6	4.5	<1.5	0.71

Appendix D.8.–Lower Sherman Creek SP1 sediment compositions, 2011–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (>2mm)				
10/4/2011	2	2	96	0.1	73.2	2.75	1.5	0.54
7/3/2012	4	0	96	0.1	78.6	3.05	<0.55	0.82
7/1/2013	2	2	96	0.6	75.7	0.75	ND	0.61
7/28/2014	3.4	6.5	89.9	0.3	76.7	2.5	<1.3	0.354
7/7/2015	1.8	3	86.1	9	76.2	ND	<1.3	0.399
7/6/2016	0.1	0.9	71.2	27.8	80.5	3.1	<2.4	0.322
7/7/2017	1.5	5.4	67	26.1	76.5	2	<2.5	0.288
6/29/2018	2.3	2.5	88.9	6.3	69.3	2.5	<2.6	0.294
7/22/2019	0	1.6	72.2	26.2	61.4	2.6	<3.2	0.317
7/9/2020	1	1	87.3	10.7	68.4	3.2	1.5	0.443
7/9/2020	0.2	1.3	97.7	14.5	70.1	2.6	3.5	0.417
7/9/2020	0.3	0.9	89	14.5	70.5	2.8	3	0.417
7/6/2021	0.3	0.3	104.7	1	70	2.55	<0.5	0.252
7/6/2021	0.3	0	93.5	11.9	67.8	2.1	<1.4	0.19
7/6/2021	0	0.5	88.3	11.1	68.5	2.3	<1.4	0.281
7/6/2022	1.2	11.5	81.6	4.9	70.2	2.25	<0.85	0.501
7/6/2022	0.4	0.7	71	16	81.1	2.1	<0.73	0.291
7/6/2022	0.5	2.4	85.3	8.9	71.1	2.2	<0.79	0.278
7/5/2023	1.4	6.7	79.8	10.8	68.6	1.95	<1.4	0.37
7/5/2023	1.3	4.5	81.3	10.5	77.1	1.7	<1.3	0.3
7/5/2023	1.5	7	82.2	17.4	69.9	1.5	<1.4	0.35
7/22/2024	0.4	0.5	92.8	5.4	76.3	2.1	1.3	0.34
7/22/2024	0	0.5	75.2	26.4	69.8	3.05	<1.3	0.407
7/22/2024	0	0.8	93	8.7	67.9	3	<1.4	0.41
7/24/2025	0.5	0.7	95.3	ND	67.2	4.1	<1.4	0.34
7/24/2025	0.8	0.8	99.1	ND	63	4	<1.5	0.38
7/24/2025	0.6	0.5	79.8	ND	65.2	3.7	<1.5	0.35

Note: ND = no data.

Appendix D.9.–Upper Sherman Creek sediment compositions, 2024–2025.

Sample Date	Particle Size Data				% Total Solids	% Total Volatile Solids	Total Sulfide (mg/kg)	% Total Organic Carbon
	% Clay	% Silt	% Sand	% Coarse material (> 2 mm)				
7/22/2024	0.2	0.4	55.8	41.9	69.6	1.8	<1.3	0.28
7/22/2024	0.4	1.3	84.2	20.8	61.9	1.9	<1.5	0.27
7/22/2024	0.3	0.5	80.3	17.5	67.2	2.1	<1.4	0.25
7/24/2025	0.7	2.3	74.9	18.8	71.7	3.8	<1.3	0.35
7/24/2025	0.6	0.9	92.4	9.5	64.5	2.7	<1.5	0.32
7/24/2025	0.4	0.8	55.5	50.5	64.3	3.2	<1.5	0.27

Appendix D.10.—Lower Slate Creek SP1 sediment element concentrations, 2011–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
10/3/2011	13,600	16.2	<0.267	1.46	29.4	56.7	<0.136	7.79	47.4	0.72	220
7/3/2012	13,600	9.31	<0.25	1.22	32	50.7	<0.122	8.45	43.2	<0.17	200
7/2/2013	12,300	23.7	<0.246	1.29	94.5	56.7	<0.122	9.14	73.4	1.94	205
7/28/2014	12,000	20.1	0.08	1.21	20	51.1	0.06	8.78	40.8	1.3	189
7/6/2015	12,000	14.9	0.07	0.53	18.9	39.1	0.04	6.86	30	0.7	131
7/5/2016	12,800	17	0.079	0.735	20.4	39.8	0.057	7.16	35.2	1.3	173
7/7/2017	12,000	16.4	0.101	0.681	18.3	40.9	<0.031	8.16	31.7	<1.6	145
6/28/2018	12,300	14.6	0.077	0.554	19.3	40.1	0.038	6.93	32.4	0.98	129
7/22/2019	11,000	14.3	0.083	0.559	16.9	39	0.074	6.36	34.2	<1	132
7/8/2020	10,700	15.1	0.077	0.602	19.1	41.3	0.0513	6.8	32.8	0.96	84.1
7/8/2020	10,800	12.8	0.063	0.489	19.3	35.5	0.0565	5.57	31.3	0.82	89.9
7/8/2020	9,770	11.3	0.0688	0.587	18.5	34.2	0.039	5.27	31.7	0.87	96.9
7/7/2021	10,600	12.8	0.073	0.58	17.1	39.9	0.058	6.88	32.2	<1.3	124
7/7/2021	12,600	20.3	0.109	0.811	19.7	50.9	0.067	8.07	38.6	1.5	168
7/7/2021	11,300	22.2	0.11	0.838	18.3	48.9	0.078	8.43	36.5	1.6	160
7/5/2022	8,230	8.88	0.065	0.396	13.2	32	0.048	4.19	25.6	<0.97	97.2
7/5/2022	9,100	10.9	0.059	0.381	13.9	32.8	0.034	5.61	23.8	<1	100
7/5/2022	11,400	11.2	0.069	0.482	18	37.2	0.033	6.42	30.6	<1.3	127
7/6/2023	12,300	12.6	0.092	0.441	17.5	43.8	0.118	6.85	29.2	0.84	112
7/6/2023	12,400	12.3	0.065	0.428	18.7	42.7	0.04	5.91	30.1	<1.2	125
7/6/2023	11,500	16.8	0.064	0.394	18.8	35.5	0.042	5.23	28.4	1.9	121
7/23/2024	14,400	18.1	0.117	0.74	24	56.6	0.07	8.29	40.8	1.4	173
7/23/2024	19,400	17.6	0.085	0.89	22.7	52.6	0.061	8.95	42.2	<1.1	176
7/23/2024	12,600	17.2	0.098	0.688	20.8	51	0.064	8.38	36.2	1.4	162
7/25/2025	12,000	14.5	0.08	0.54	20.3	55.4	0.052	7.06	33.7	<1.4	137
7/25/2025	11,300	13.9	0.121	0.37	19.6	51.1	0.049	6.63	36	1.1	122
7/25/2025	10,700	14.3	0.098	0.626	18	42.6	0.069	6.12	33.4	1.5	135

Appendix D.11.—West Fork Slate Creek sediment element concentrations, 2024–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
7/23/2024	13,700	33.8	0.228	2.16	21.7	75.4	0.138	11.7	56.3	3.2	273
7/23/2024	13,600	25.8	0.205	1.62	21.2	65.5	0.075	10.0	45.6	4.4	252
7/23/2024	14,000	34.8	0.220	1.69	23.2	78.9	0.132	12.7	57.4	3.0	271
7/25/2025	12,600	24.6	0.158	0.92	20.5	60.4	0.097	10.2	45.6	2.0	191
7/25/2025	13,000	26.3	0.150	1.01	21.1	61.6	0.075	9.55	46.0	2.0	203
7/25/2025	11,600	22.2	0.199	0.99	19.1	64.7	0.058	8.83	41.2	2.2	192

Appendix D.12.–East Fork Slate Creek sediment element concentrations, 2011–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
10/3/2011	20,100	30	<0.335	20.9	29.5	88.4	<0.188	8.5	143	1.41	1360
7/10/2012	15,300	24	<0.739	23.2	38.9	159	<0.369	14.2	153	<1.48	1490
7/1/2013	13,900	42.2	<0.425	13.9	32.7	73.4	<0.216	12.5	79.8	4.79	844
7/30/2014	13,300	39.1	0.14	12.1	14.6	55.7	0.04	6.94	85.3	2.4	812
7/7/2015	12,300	22.3	0.12	5.87	15.1	46.7	0.05	4.48	46.8	1.7	333
7/6/2016	16,500	51.5	0.19	8.2	16.5	59.5	0.109	5.54	86.1	3.1	634
7/7/2017	12,900	29.9	0.3	9.65	15	62.3	0.143	6.61	69.9	<5	625
6/29/2018	12,300	59.1	0.146	18.7	13	47.6	0.049	6.07	127	3.37	1020
7/22/2019	12,300	55.9	0.179	10.3	15.5	63.8	<0.039	5.93	83.1	2.9	665
7/9/2020	11,100	23.4	0.13	1.06	14.7	27.4	0.0758	4.5	25.1	1.79	193
7/9/2020	8,290	18	0.0674	4.58	10.2	29.3	0.0368	3.55	44.3	1.26	609
7/9/2020	9,650	26.1	0.0991	4.79	13.9	29.6	0.0932	4.66	49.7	3.4	213
7/6/2021	7,900	35	0.084	8.8	3.1	34.3	0.045	7.5	51.6	1.2	477
7/6/2021	8,770	39.3	0.275	7.39	8.29	33.4	0.046	6.11	56.1	4	551
7/6/2021	8,050	23.3	0.086	5.81	7.76	23.2	0.09	3.12	54.3	1.6	509
7/6/2022	10,100	24.5	0.113	1.79	13.4	22	0.026	5.01	28.2	2.9	204
7/6/2022	6,240	27.9	0.061	8.27	5.32	25.9	<0.021	2.25	58.2	1.05	526
7/6/2022	7,110	11.4	0.057	0.656	7.11	22	0.039	3.25	12.8	<1.2	115
7/5/2023	9,520	30.4	0.116	2.35	9.63	54.8	0.074	4.7	39.4	3	266
7/5/2023	11,100	48.2	0.099	3.68	11.3	37.5	0.054	9.16	44.3	11.6	388
7/5/2023	10,700	32.9	0.192	5.76	8.16	28.7	0.031	5.23	53.3	4.3	432
7/22/2024	13,800	25.4	0.101	2.28	14.3	38.9	<0.035	7.84	43.2	2.2	283
7/22/2024	10,900	13	0.13	1.25	11.6	22.1	0.03	8.41	21.4	<1.3	133
7/22/2024	11,800	34.8	0.078	6.06	10.2	33.6	<0.025	4.04	56.6	2.3	513
7/25/2025	12,900	39.4	0.189	4.38	12.5	35.7	0.114	4.53	54.5	3.1	373
7/25/2025	8,910	21.9	0.082	3.06	12.1	34.2	0.086	3.12	37.7	1.2	271
7/25/2025	13,000	50.4	0.133	4.29	13.6	45.6	0.065	6	59.3	4	434

Appendix D.13.—Upper Slate Creek SP1 sediment element concentrations, 2011–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
10/6/2011	22,500	17.9	<0.278	0.722	127	53.4	<0.0489	3.37	87.5	0.809	130
7/2/2012	20,300	14.4	<0.256	0.776	125	55.4	<0.126	4.05	78.4	0.606	134
7/1/2013	14,600	13.5	<0.256	0.75	101	44.6	<0.038	2.7	55	3.21	105
7/30/2014	14,900	19.2	0.06	0.69	84.2	45.8	0.03	2.86	55.7	1.8	111
7/7/2015	14,500	14.2	0.08	0.76	92.2	47	0.11	3.17	54	2.3	109
7/6/2016	14,000	18	0.092	0.507	71.7	37	0.051	2.69	48.5	2.1	111
7/7/2017	15,600	17	0.06	0.49	64.1	38.1	0.03	3.06	47.3	1.4	101
6/28/2018	14,700	19.7	0.101	0.789	105	55.1	0.047	3.97	76.4	2.86	133
8/5/2019	15,100	17.1	0.071	0.808	110	44.5	0.051	3.58	60.2	1.5	116
7/9/2020	9,650	12.3	0.105	0.561	68.2	34.5	0.0393	2.93	45.5	1.9	94.4
7/9/2020	12,600	16.2	0.095	0.472	81.5	37.1	0.173	2.94	49.5	2.06	139
7/9/2020	11,700	18.7	0.0687	0.672	82.3	41	0.0336	3.1	52.7	2.04	86.8
7/7/2021	15,600	14.8	0.08	0.609	83.7	47.7	0.05	3.04	58.3	1.8	117
7/7/2021	13,700	13.5	0.076	0.611	71.1	44.7	0.049	3.75	53.9	1.8	118
7/7/2021	15,200	19.2	0.1	0.73	84.1	57.1	0.051	3.94	63.7	2.2	131
7/6/2022	8,490	14.6	0.066	0.383	40.2	29.5	0.024	2.65	31.3	1.77	71.1
7/6/2022	11,300	13.6	0.061	0.457	58.4	36.5	0.04	2.66	48.3	1.72	97
7/6/2022	11,600	11	0.045	0.342	60.4	34.8	0.029	2.28	38.9	1.1	76.3
7/5/2023	15,600	12.8	0.057	0.485	94.6	42.6	<0.024	3.49	54.2	1.7	103
7/5/2023	16,400	18.9	0.076	0.738	79.3	46.8	0.06	3.38	58.5	1.8	120
7/5/2023	18,500	20.2	0.091	1.05	100	55.5	0.052	3.92	67.9	2.1	147
7/23/2024	17,500	19.6	0.108	0.74	103	62.8	0.063	4.17	70	2.3	133
7/23/2024	17,400	18.4	0.084	0.863	97	56.3	0.028	4.18	71.9	2.3	146
7/23/2024	19,000	19.8	0.091	0.777	112	61.9	0.075	4.29	77.1	2.5	141
7/24/2025	12,700	13.7	0.146	1.02	67.8	60.7	0.037	4.01	66.5	3.2	134
7/24/2025	12,500	20	0.201	0.477	67	41.2	0.039	9.81	45.6	3.1	96.7
7/24/2025	15,700	14.6	0.072	0.62	102	52.6	<0.027	3.76	58	2.1	114

Appendix D.14.—Upper Slate Creek SP2 sediment element concentrations, 2024–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
7/23/2024	14,700	19.3	0.051	0.618	64.5	45.6	<0.028	2.42	53.6	<1.4	104
7/23/2024	13,400	16.9	0.032	0.327	83.7	34.3	<0.023	1.52	49.8	<1.2	69.8
7/23/2024	11,100	10.1	0.025	0.346	51.0	27.4	<0.022	1.35	44.2	<1.1	63.1
7/24/2025	12,600	14.8	<0.052	0.633	74.0	31.5	0.026	2.21	44.1	<1.3	87.3
7/24/2025	16,700	14.5	<0.05	0.437	145.0	37.5	<0.027	1.53	61.8	<1.2	85.5
7/24/2025	10,900	20.5	<0.043	0.631	57.4	34.6	<0.028	2.41	41.1	<1.1	1.10

Appendix D.15.–Lower Johnson Creek sediment element concentrations, 2011–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
10/3/2011	13,100	16.2	<0.266	0.238	31.5	73.1	<0.0386	9.76	27.3	<0.181	93.3
7/2/2012	13,100	12.8	0.342	0.25	35.5	76.8	<0.123	9.45	23.4	<0.167	97.3
7/1/2013	10,300	11.9	0.269	0.492	24.4	56.1	<0.0354	8	15.7	<0.163	121
7/30/2014	10,300	16.5	0.32	0.16	22.2	68.2	0.02	10.9	16.9	<0.5	83.4
7/6/2015	10,900	12.5	0.16	0.15	18.1	71.1	<0.02	8.04	17.7	<0.8	79.7
8/8/2016	9,470	13	0.574	0.15	18.9	76.3	0.02	8.41	15.1	<0.57	65.7
7/6/2017	6,730	10.3	0.172	0.115	11.7	46.2	0.064	5.96	10.3	<1.5	48
6/29/2018	13,600	20.5	0.139	0.264	30.2	68.4	0.015	11.9	24.6	<0.63	109
7/22/2019	10,200	16.1	0.205	0.168	20.2	60.1	<0.028	7.8	16.4	<0.96	81.2
7/9/2020	10,300	21.5	0.107	0.158	19.8	95.4	0.0137	5.44	17.9	<0.51	89.3
7/9/2020	9,850	16.7	0.08	0.181	19.9	53.9	0.0171	8.1	18.4	<0.53	85.8
7/9/2020	9,110	13.3	0.109	0.164	18.8	44.7	0.0187	5.7	16	<0.48	94.1
7/6/2021	9,820	13.8	0.135	0.127	20.5	60	0.034	6.16	16.4	<1.5	70.3
7/6/2021	10,500	12.4	0.118	0.161	21.4	62.1	0.028	6.14	16.4	<1.4	76.4
7/6/2021	11,800	15.6	0.224	0.188	24.5	101	0.048	7.98	19.2	<1.5	98.1
7/5/2022	12,800	20.5	0.154	0.208	22.7	72.6	<0.027	9.37	20.2	<1.2	102
7/5/2022	13,100	19.7	0.121	0.211	24.1	80.3	0.026	9.46	20.5	<1.2	101
7/5/2022	11,800	21	0.245	0.212	21	87.6	<0.03	9.57	18.8	<1.2	91.9
7/5/2023	12,200	17.1	0.074	0.209	21.8	58.1	<0.026	7.24	18.4	<0.2	91.5
7/5/2023	11,900	21.4	0.071	0.201	21.4	58.8	<0.028	8.11	18	<1.2	93.4
7/5/2023	11,000	17.6	0.152	0.214	23.8	64.1	<0.03	8.01	17.2	<1.4	87.6
8/9/2024	12,400	17.9	0.281	0.16	26.3	62.4	0.024	9.04	20.8	<1.4	89
8/9/2024	13,400	17	0.082	0.271	26.2	53.2	0.035	7.41	21.4	<1.1	104
8/9/2024	11,400	14.2	0.188	0.158	23.1	65.9	0.026	9.21	18	<1	84.4
7/25/2025	11,500	15.4	0.277	0.162	25	82.5	0.056	9.12	18.4	<1.2	88.7
7/25/2025	12,100	28.5	0.413	0.237	25.9	98.5	0.07	12.3	21.1	<1.2	103
7/25/2025	11,600	16.6	0.327	0.206	26	83.8	0.038	8.68	21.4	<1.1	95.6

Appendix D.16.–Upper Johnson Creek SP1 sediment element concentrations, 2024–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
7/22/2024	6,840	1.46	<0.023	0.068	15.0	38.9	<0.024	1.34	9.9	<1.2	28.6
7/22/2024	6,950	1.39	0.027	0.069	12.4	50.4	<0.024	1.15	7.9	<1.1	34.9
7/22/2024	7,890	1.18	0.026	0.070	14.0	42.1	<0.025	1.18	9.5	<1.1	36.8
7/24/2025	8,330	1.86	0.056	0.088	19.8	59.3	<0.024	1.70	12.7	<1.2	38.4
7/24/2025	9,800	2.20	0.048	0.084	25.9	76.0	0.084	3.90	15.5	<1.2	44.0
7/24/2025	9,320	2.15	<0.048	0.088	23.3	67.2	<0.028	2.43	14.7	<1.2	44.4

Appendix D.17.–Lower Sherman Creek SP1 sediment element concentrations, 2011–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
10/4/2011	18,200	28.9	<0.259	0.389	46.2	94	<0.0455	6.7	45.9	<0.176	110
7/3/2012	17,900	24.3	0.289	0.578	51.4	79.1	<0.124	8.43	40.2	<0.174	128
7/1/2013	15,400	25.4	0.306	<0.52	37.4	69.4	<0.0384	7.39	30.9	1.77	111
7/28/2014	14,900	27.9	0.14	0.36	33.6	68.4	0.03	6.97	31.1	1.2	119
7/7/2015	17,500	37	0.25	0.32	30.9	70.8	0.02	11	38	2	134
7/6/2016	13,800	19.9	0.097	0.388	27.5	72.5	<0.02	6.6	32.9	1.1	123
7/7/2017	17,400	23.5	0.097	0.194	31.8	58.1	0.045	4.69	28.5	<1.3	90.2
6/29/2018	15,600	35.2	0.135	0.353	33.7	81.9	<0.014	8.05	34.8	<0.65	120
7/22/2019	17,400	42.4	0.205	0.222	36.1	59.6	<0.032	6.19	34.2	<1.2	118
7/9/2020	15,800	30.2	0.092	0.276	32.1	49.3	0.0313	6.65	29.6	0.71	86.5
7/9/2020	14,000	22.6	0.132	0.223	30.1	52.2	0.0262	5.66	27.7	0.72	104
7/9/2020	13,000	26.5	0.171	0.201	30.5	54.8	0.0243	9.68	27.1	0.86	104
7/6/2021	15,900	16.3	0.088	0.171	46.9	72	<0.028	30.1	36.2	<1.4	87
7/6/2021	11,800	11.3	0.131	0.156	39.5	61.4	<0.029	5.16	33.6	<1.4	77.8
7/6/2021	13,500	15.6	0.09	0.161	43.3	105	0.029	4.1	30.5	<1.4	79.2
7/6/2022	7,860	10.5	0.04	0.087	19.8	31.7	<0.027	2.24	16.1	<1.2	41.8
7/6/2022	2,490	1.57	<0.021	<0.021	6.3	8.41	<0.021	0.585	4.72	<1.1	13
7/6/2022	12,700	21.3	0.117	0.109	27.1	40.6	0.027	7.75	22.6	<1.2	64.1
7/5/2023	16,300	24.2	0.105	0.189	29.1	59	<0.027	5.25	28	<1.4	90
7/5/2023	17,000	23	0.132	0.198	36.7	58.5	0.054	5.9	30	2.08	95.2
7/5/2023	18,000	26.6	0.218	0.353	35	78.1	0.038	8.89	33.5	1.9	111
7/22/2024	13,900	30.4	0.103	0.236	35.5	66.9	0.297	4.36	32.8	1	101
7/22/2024	16,100	23.3	0.111	0.177	36.9	72.4	<0.028	5.43	31.4	0.7	91
7/22/2024	18,400	35	0.135	0.226	37	86.4	<0.027	8.93	35.6	<1.3	111
7/24/2025	15,800	25.2	0.089	0.197	35.2	57.3	<0.026	5.84	30	<1.3	102
7/24/2025	15,800	23.7	0.109	0.218	35.8	60.5	<0.028	5.35	32.7	1.3	107
7/24/2025	14,900	20.5	0.07	0.171	32.9	60.5	<0.029	5.49	29.9	<1.1	104

Appendix D.18.—Upper Sherman Creek sediment element concentrations, 2024–2025.

Sample Date	Concentration (mg/kg dry weight)										
	Al	As	Ag	Cd	Cr	Cu	Hg	Pb	Ni	Se	Zn
7/22/2024	18,100	37.9	0.141	0.113	31.7	62.1	<0.025	6.74	31.0	<1.4	100.0
7/22/2024	21,900	63.1	0.177	0.144	38.0	112.0	0.029	6.07	42.1	1.2	121.0
7/22/2024	19,500	46.2	0.126	0.101	33.3	66.2	<0.028	8.04	33.5	<1.2	107.0
7/24/2025	15,500	78.5	0.138	0.138	31.2	58.2	0.027	5.52	35.5	<1.1	100.0
7/24/2025	18,600	51.2	0.153	0.139	33.6	61.4	<0.027	6.35	33.2	<1.3	110.0
7/24/2025	16,100	51.3	0.112	0.129	28.4	55.6	<0.028	5.20	28.4	<1.3	99.2



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August 18, 2025

Analytical Report for Service Request No: K2507459

Greg Albrecht
Alaska Department of Fish and Game
802 3rd St.,
P.O. Box 110024
Juneau, AK 99811-0024

RE: 2025 Kensington Biomonitoring

Dear Greg,

Enclosed are the results of the sample(s) submitted to our laboratory July 29, 2025
For your reference, these analyses have been assigned our service request number **K2507459**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at Mark.Harris@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Mark Harris
Project Manager



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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Received: 07/29/2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Twenty seven soil samples were received for analysis at ALS Environmental on 07/29/2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

Method 6020B, 08/01/2025: The Relative Percent Difference (RPD) for the replicate analysis of Lead in samples 2025KGMUJCSP1S1 and 2025KGMUHS2 was outside the normal ALS control limits. The variability in the results was attributed to the heterogeneous character of the sample. Standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by *Karen Melorine*

Date 08/18/2025



Chain of Custody

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Project Name: 2025 Kensington Biomonitoring		Project Number: Biomonitoring		7D		14D		28D		180D		999D		Remarks
Project Manager: Greg Albrecht		Company: ADFG		160.4 Modified / TVS		PSEP Sulfide / PSEP Sulfide		PSEP TOC / PSEP TOC T		7471A / Hg		3020A / Metals T		
Address, City, State: 802 3rd St Douglas, AK		Phone # 407-465-6384		email greg.albrecht@alaska.gov		PSEP PS / PSEP PartSizeEB		160.3 Modified / TS		1		2		
Sampler Signature: [Signature]		Sampler Printed Name: Greg Albrecht		3		4		5		6		7		
CLIENT SAMPLE ID		LAB ID		SAMPLING Date Time State		Matrix								
1. 2025KGMUJCSPI S1		7/24 1600 AK		Soil		3		X		X		X		
2. 2025KGMUJCSPI S2		7/24 1600 AK												
3. 2025KGMUJCSPI S3		7/24 1600 AK												
4. 2025KGMUJCSPI S1		7/25 1200 AK												
5. 2025KGMUJCSPI S2		7/25 1200 AK												
6. 2025KGMUJCSPI S3		7/25 1200 AK												
7. EFS														
8. 2025KGM EFS S2		7/25 1400 AK												
9.														
10.														

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input checked="" type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: Pete Straw COEUR, AK pstraw@coeur.com	Circle which metals are to be analyzed Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg																																
	Turnaround Requirements <input type="checkbox"/> 24 hr. _____ 48 hr. <input type="checkbox"/> 5 Day <input checked="" type="checkbox"/> Standard	Special Instructions/Comments: *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One) Bill to pstraw@coeur.com Lab report to greg.albrecht@alaska.gov																																
	<table border="1"> <tr> <th>Relinquished By:</th> <th>Received By:</th> <th>Relinquished By:</th> <th>Received By:</th> <th>Relinquished By:</th> <th>Received By:</th> </tr> <tr> <td>[Signature]</td> <td>[Signature]</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Printed Name: ADFG</td> <td>Printed Name: Mark Patterson</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Firm: 7/28 0900</td> <td>Firm: ALS</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Date/Time</td> <td>Date/Time: 7/29/25</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:	[Signature]	[Signature]					Printed Name: ADFG	Printed Name: Mark Patterson					Firm: 7/28 0900	Firm: ALS					Date/Time	Date/Time: 7/29/25			
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Firm: 7/28 0900	Firm: ALS																																	
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K2507459

Project Name: 2025 Kensington Biomonitoring		Project Number: _____	
Project Manager: Greg Albrecht		Company: ADEG	
Address, City, State: 802 3rd St Douglas, AK		Phone #: 907-465-6384	
Sampler Signature: [Signature]		Sampler Printed Name: Greg Albrecht	
Client Sample ID		LAB ID	SAMPLING Date Time State Matrix
1. 2025KGMUSCSP1S1		7/24 1500 AK Soil	3 X X X X X X X
2. 2025KGMUSCSP1S2		7/24 1500 AK	
3. 2025KGMUSCSP1S3		7/24 1500 AK	
4. 2025KGMUSCSP2S1		7/24 1400 AK	
5. 2025KGMUSCSP2S2		7/24 1400 AK	
6. 2025KGMUSCSP2S3		7/24 1400 AK	
7. 2025KGMFSCS1		7/25 1400 AK	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
8.			
9.			
10.			

Report Requirements I. Routine Report: Method Blank, Surrogate, as required <input checked="" type="checkbox"/> II. Report Dup., MS, MSD as required III. CLP Like Summary (no raw data) IV. Data Validation Report V. EDD	Invoice Information P.O.# _____ Bill To: Pete Skrow COeur, AK p.skrow@coeur.com	Circle which metals are to be analyzed Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg			
	Turnaround Requirements 24 hr. _____ 48 hr. _____ 5 Day _____ <input checked="" type="checkbox"/> Standard	Special Instructions/Comments: *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)			
	Requested Report Date _____				

Relinquished By: [Signature]	Received By: [Signature]	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Greg Albrecht	Signature: [Signature]	Signature:	Signature:	Signature:	Signature:
Printed Name: ADEG	Printed Name: Nerak Patterson	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: 7/28 0960	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time:	Date/Time: 7/29/25	Date/Time:	Date/Time:	Date/Time:	Date/Time:



144074

CHAIN OF CUSTODY

144074

001

SR# _____
 COC Set _____ of _____
 COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
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Page 1 of 1

K2507459

Project Name: 2025 Kensington		Project Number: Biomonitoring		NUMBER OF CONTAINERS	7D	14D	28D	180D	999D						Remarks		
Project Manager: Greg Albrecht					160.4 Modified / TVS	PSEP Sulfide / PSEP Sulfide	PSEP TOC / PSEP TOC T	7471A / Hg	8020A / Metals T	PSEP PS / PSEP ParSizeEB	160.3 Modified / TS	1	2	3		4	5
Company: ADFG																	
Address, City, State: 802 3rd St. Douglas, AK																	
Phone # 907-465-6384		email: greg.albrecht@alaska.gov															
Sampler Signature: [Signature]		Sampler Printed Name: Greg Albrecht															
CLIENT SAMPLE ID	LABID	SAMPLING Date Time State	Matrix														
1. 2025KGMLSHS1		7/24/1000 AK	Soil	3	X	X	X	X	X	X							
2. 2025KGMLSHS2		7/24/1000 AK															
3. 2025KGMLSHS3		7/24/1000 AK															
4. 2025KGMUSHS1		7/24/1130 AK															
5. 2025KGMUSHS2		7/24/1130 AK															
6. 2025KGMUSHS3		7/24/1130 AK															
7. 2025KGMFSCS3		7/25/1400 AK		↓	↓	↓	↓	↓	↓	↓							
8.																	
9.																	
10.																	

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank; Surrogate, as required <input checked="" type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: <u>Pete Stow</u> <u>Coeur, AK</u> <u>pstrow@coeur.com</u>	Circle which metals are to be analyzed Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg			
	Turnaround Requirements <input type="checkbox"/> 24 hr. _____ 48 hr. <input checked="" type="checkbox"/> 5 Day <input type="checkbox"/> Standard	Special Instructions/Comments: _____ *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)			
	Requested Report Date _____				
Relinquished By: [Signature]	Received By: [Signature]	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Greg Albrecht	Signature: [Signature]	Signature:	Signature:	Signature:	Signature:
Printed Name: ADFG	Printed Name: [Name]	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: 7/28/0900	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time:	Date/Time: 7/24/05	Date/Time:	Date/Time:	Date/Time:	Date/Time:

0990



144074

CHAIN OF CUSTODY
144074

001

SR# _____

COC Set _____ of _____

COC# _____

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www.alsglobal.com

Page 1 of 1

K2507459

Project Name: 2025 Kensington		Project Number: Biomonitoring		NUMBER OF CONTAINERS	7D	14D	28D	180D	999D						Remarks		
Project Manager: Greg Albrecht		Company: ADFG			160.4 Modified / TVS	PSEP Sulfide / PSEP Sulfide	PSEP TOC / PSEP TOC T	7471A / Hg	3020A / Metals T	PSEP PS / PSEP ParSizeEB	160.3 Modified / TS	1	2	3		4	5
Address, City, State: 802 3rd St Douglas AK 99801		Phone #: 907-465-6384			email: greg.albrecht@alaska.gov												
Sampler Signature: [Signature]		Sampler Printed Name: Greg Albrecht															
CLIENT SAMPLE ID		LAB ID	SAMPLING Date Time State		Matrix												
1.	2025K6MWFSCS1		7/25 1000 AK	Soil	3	X	X	X	X	X	X						
2.	2025K6MWFSCS2		7/25 1000 AK														
3.	2025K6MWFSCS3		7/25 1000 AK														
4.	2025K6MLSCS1		7/25 1000 AK														
5.	2025K6MLSCS2		7/25 1200 AK														
6.	2025K6MLSCS3		7/25 1200 AK	↓	↓	↓	↓	↓	↓	↓	↓						
7.																	
8.																	
9.																	
10.																	

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input checked="" type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: Pete Strow COEUR, AK pstrow@coeur.com	Circle which metals are to be analyzed Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg			
	Turnaround Requirements <input type="checkbox"/> 24 hr. _____ 48 hr. <input type="checkbox"/> 5 Day <input checked="" type="checkbox"/> Standard	Special Instructions/Comments: *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One) Lab report to greg.albrecht@alaska.gov Bill to pstrow@coeur.com			
Relinquished By: Signature: [Signature] Printed Name: ADFG Firm: 7/28 0900 Date/Time:	Received By: Signature: [Signature] Printed Name: Nalrik Patterson Firm: ALS Date/Time: 7/29/25	Relinquished By: Signature: _____ Printed Name: _____ Firm: _____ Date/Time:	Received By: Signature: _____ Printed Name: _____ Firm: _____ Date/Time:	Relinquished By: Signature: _____ Printed Name: _____ Firm: _____ Date/Time:	Received By: Signature: _____ Printed Name: _____ Firm: _____ Date/Time:

Cooler Receipt and Preservation Form

PM MA

Client ADFG Service Request K2507459
 Received: 7/29/25 Opened: 7/29/25 By: NRP Unloaded: 7/29/25 By: NRP

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 F
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID ^{NRP}	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filled
4.3	3.7 ^{NRP}	JR02	144074			391495230138	
2.9						391495230127	
4.1						391495230116	
1.7						391495230105	

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
 If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
 If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N
- If applicable, tissue samples were received: Frozen Partially Thawed Thawed
6. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (lo, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
13. Were VOA vials received without headspace? Indicate in the table below NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within method specified time limit? If not, notate the error below and notify the PM. NA Y N
16. Were 100mL sterile microbiology bottles filled exactly to the 100mL mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:
2025KGM L JS1 (9oz)	2025KGM L JS1	only mislabeled, same time

Sample ID	Bottle Count	Bottle Type	Head-space	Broko	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
2025KGMVJCSPI53	1x	16oz		X					NRP	1020
2025KGMVJCSPI51	1x	16oz		X						
2025KGMVJCSPI53	1x	4oz		X						
2025KGMVJCSPI51	1x	4oz		X						

Notes, Discrepancies, Resolutions: _____



Cooler Receipt and Preservation Form

Client ADFG

Service Request K2507459

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
202SKGMLSHSP152	1x 4oz			X					NRP	1113

Notes, Discrepancies & Resolutions: _____



Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Analysis Method: 160.3 Modified
Prep Method: None

Service Request: K2507459
Date Collected: 07/24/25 - 07/25/25
Date Received: 07/29/25
Units: Percent
Basis: As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
2025KGMUJCSP1S1	K2507459-001	71.1	-	-	1	07/30/25 14:32	
2025KGMUJCSP1S2	K2507459-002	73.7	-	-	1	07/30/25 14:32	
2025KGMUJCSP1S3	K2507459-003	66.0	-	-	1	07/30/25 14:32	
2025KGMLJCS1	K2507459-004	65.0	-	-	1	07/30/25 14:32	
2025KGMLJCS2	K2507459-005	64.9	-	-	1	07/30/25 14:32	
2025KGMLJCS3	K2507459-006	65.7	-	-	1	07/30/25 14:32	
2025KGMEFSCS2	K2507459-007	67.3	-	-	1	07/30/25 14:32	
2025KGMUSCSP1S1	K2507459-008	65.0	-	-	1	07/30/25 14:32	
2025KGMUSCSP1S2	K2507459-009	58.8	-	-	1	07/30/25 14:32	
2025KGMUSCSP1S3	K2507459-010	70.5	-	-	1	07/30/25 14:32	
2025KGMUSCSP2S1	K2507459-011	68.5	-	-	1	07/30/25 14:32	
2025KGMUSCSP2S2	K2507459-012	68.1	-	-	1	07/30/25 14:32	
2025KGMUSCSP2S3	K2507459-013	69.5	-	-	1	07/30/25 14:32	
2025KGMEFSCS1	K2507459-014	60.3	-	-	1	07/30/25 14:32	
2025KGMLSHSP1S1	K2507459-015	67.2	-	-	1	07/30/25 14:32	
2025KGMLSHSP1S2	K2507459-016	63.0	-	-	1	07/30/25 14:32	
2025KGMLSHSP1S3	K2507459-017	65.2	-	-	1	07/30/25 14:32	
2025KGMUSHS1	K2507459-018	71.7	-	-	1	07/30/25 14:32	
2025KGMUSHS2	K2507459-019	64.5	-	-	1	07/30/25 15:48	
2025KGMUSHS3	K2507459-020	64.3	-	-	1	07/30/25 15:48	
2025KGMEFSCS3	K2507459-021	60.2	-	-	1	07/30/25 15:48	
2025KGMWFSCS1	K2507459-022	58.7	-	-	1	07/30/25 15:48	
2025KGMWFSCS2	K2507459-023	63.3	-	-	1	07/30/25 15:48	
2025KGMWFSCS3	K2507459-024	64.9	-	-	1	07/30/25 15:48	
2025KGMLSCS1	K2507459-025	66.5	-	-	1	07/30/25 15:48	
2025KGMLSCS2	K2507459-026	69.6	-	-	1	07/30/25 15:48	
2025KGMLSCS3	K2507459-027	67.2	-	-	1	07/30/25 15:48	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Analysis Method: 160.3 Modified
Prep Method: None

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25

Units: Percent
Basis: As Received

Replicate Sample Summary
Inorganic Parameters

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
2025KGMUJCSP1S1	K2507459-001DUP	-	-	71.1	72.7	71.9	2	20	07/30/25
2025KGMUSHS1	K2507459-018DUP	-	-	71.7	69.5	70.6	3	20	07/30/25
2025KGMUSHS2	K2507459-019DUP	-	-	64.5	65.8	65.2	2	20	07/30/25

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Analysis Method: 160.4 Modified
Prep Method: None

Service Request: K2507459
Date Collected: 07/24/25 - 07/25/25
Date Received: 07/29/25

Units: Percent
Basis: Dry, per Method

Solids, Total Volatile

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
2025KGMUJCSP1S1	K2507459-001	1.80	0.10	-	1	07/30/25 14:32	
2025KGMUJCSP1S2	K2507459-002	3.70	0.10	-	1	07/30/25 14:32	
2025KGMUJCSP1S3	K2507459-003	4.50	0.10	-	1	07/30/25 14:32	
2025KGMLJCS1	K2507459-004	3.70	0.10	-	1	07/30/25 14:32	
2025KGMLJCS2	K2507459-005	3.90	0.10	-	1	07/30/25 14:32	
2025KGMLJCS3	K2507459-006	3.30	0.10	-	1	07/30/25 14:32	
2025KGMEFSCS2	K2507459-007	5.40	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP1S1	K2507459-008	6.20	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP1S2	K2507459-009	8.30	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP1S3	K2507459-010	3.90	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP2S1	K2507459-011	3.20	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP2S2	K2507459-012	5.30	0.10	-	1	07/30/25 14:32	
2025KGMUSCSP2S3	K2507459-013	4.20	0.10	-	1	07/30/25 14:32	
2025KGMEFSCS1	K2507459-014	7.60	0.10	-	1	07/30/25 14:32	
2025KGMLSHSP1S1	K2507459-015	4.10	0.10	-	1	07/30/25 14:32	
2025KGMLSHSP1S2	K2507459-016	4.00	0.10	-	1	07/30/25 14:32	
2025KGMLSHSP1S3	K2507459-017	3.70	0.10	-	1	07/30/25 14:32	
2025KGMUSHS1	K2507459-018	3.80	0.10	-	1	07/30/25 14:32	
2025KGMUSHS2	K2507459-019	2.70	0.10	-	1	07/30/25 15:48	
2025KGMUSHS3	K2507459-020	3.20	0.10	-	1	07/30/25 15:48	
2025KGMEFSCS3	K2507459-021	8.00	0.10	-	1	07/30/25 15:48	
2025KGMWFSCS1	K2507459-022	6.10	0.10	-	1	07/30/25 15:48	
2025KGMWFSCS2	K2507459-023	5.20	0.10	-	1	07/30/25 15:48	
2025KGMWFSCS3	K2507459-024	4.40	0.10	-	1	07/30/25 15:48	
2025KGMLSCS1	K2507459-025	4.20	0.10	-	1	07/30/25 15:48	
2025KGMLSCS2	K2507459-026	3.90	0.10	-	1	07/30/25 15:48	
2025KGMLSCS3	K2507459-027	4.10	0.10	-	1	07/30/25 15:48	
Method Blank	K2507459-MB1	ND U	0.10	-	1	07/30/25 14:32	
Method Blank	K2507459-MB2	ND U	0.10	-	1	07/30/25 15:48	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25

Analysis Method: 160.4 Modified
Prep Method: None

Units: Percent
Basis: Dry, per Method

Replicate Sample Summary

Solids, Total Volatile

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
2025KGMUJCSP1S1	K2507459-001DUP	0.10	-	1.80	1.80	1.80	<1	20	07/30/25
2025KGMUSHS1	K2507459-018DUP	0.10	-	3.80	3.80	3.80	<1	20	07/30/25
2025KGMUSHS2	K2507459-019DUP	0.10	-	2.70	2.70	2.70	<1	20	07/30/25

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Analysis Method: PSEP Sulfide
Prep Method: Method

Service Request: K2507459
Date Collected: 07/24/25 - 07/25/25
Date Received: 07/29/25
Units: mg/Kg
Basis: Dry

Sulfide, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2025KGMUJCSP1S1	K2507459-001	ND U	1.4	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUJCSP1S2	K2507459-002	ND U	1.3	0.4	1	07/31/25 20:50	7/31/25	
2025KGMUJCSP1S3	K2507459-003	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMLJCS1	K2507459-004	0.5 J	1.4	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLJCS2	K2507459-005	0.7 J	1.5	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLJCS3	K2507459-006	0.6 J	1.4	0.5	1	08/01/25 19:35	8/1/25	
2025KGMEFSCS2	K2507459-007	ND U	1.5	0.5	1	08/01/25 19:35	8/1/25	
2025KGMUSCSP1S1	K2507459-008	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSCSP1S2	K2507459-009	ND U	1.7	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSCSP1S3	K2507459-010	ND U	1.3	0.4	1	07/31/25 20:50	7/31/25	
2025KGMUSCSP2S1	K2507459-011	ND U	1.4	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSCSP2S2	K2507459-012	ND U	1.4	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSCSP2S3	K2507459-013	ND U	1.4	0.5	1	07/31/25 20:50	7/31/25	
2025KGMEFSCS1	K2507459-014	ND U	1.6	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLSHSP1S1	K2507459-015	ND U	1.4	0.5	1	07/31/25 20:50	7/31/25	
2025KGMLSHSP1S2	K2507459-016	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMLSHSP1S3	K2507459-017	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSHS1	K2507459-018	ND U	1.3	0.4	1	07/31/25 20:50	7/31/25	
2025KGMUSHS2	K2507459-019	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMUSHS3	K2507459-020	ND U	1.5	0.5	1	07/31/25 20:50	7/31/25	
2025KGMEFSCS3	K2507459-021	ND U	1.6	0.5	1	08/01/25 19:35	8/1/25	
2025KGMWFSCS1	K2507459-022	0.6 J	1.7	0.6	1	08/01/25 19:35	8/1/25	
2025KGMWFSCS2	K2507459-023	ND U	1.5	0.5	1	08/01/25 19:35	8/1/25	
2025KGMWFSCS3	K2507459-024	ND U	1.5	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLSCS1	K2507459-025	ND U	1.5	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLSCS2	K2507459-026	ND U	1.4	0.5	1	08/01/25 19:35	8/1/25	
2025KGMLSCS3	K2507459-027	ND U	1.4	0.5	1	08/01/25 19:35	8/1/25	
Method Blank	K2507459-MB1	ND U	1.0	0.3	1	07/31/25 20:50	7/31/25	
Method Blank	K2507459-MB2	ND U	1.0	0.3	1	08/01/25 19:35	8/1/25	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 07/31/25

Triplicate Sample Summary
General Chemistry Parameters

Sample Name: 2025KGMUSCSP2S1
Lab Code: K2507459-011
Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry

Table with 9 columns: Analyte Name, MRL, MDL, Sample Result, Duplicate K2507459-011DUP Result, Triplicate K2507459-011TRP Result, Average, RSD, RSD Limit. Row 1: Sulfide, Total, 1.4, 0.5, ND, ND, ND, NC, NC, 20.

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/01/25

Triplicate Sample Summary
General Chemistry Parameters

Sample Name: 2025KGMLSCS3
Lab Code: K2507459-027
Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry

Analyte Name	MRL	MDL	Sample Result	Duplicate K2507459-027DUP Result	Triplicate K2507459-027TRP Result	Average	RSD	RSD Limit
Sulfide, Total	1.4	0.5	ND	ND	ND	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 07/31/25
Date Extracted: 07/31/25

Duplicate Matrix Spike Summary
Sulfide, Total

Sample Name: 2025KGMUSCSP2S1
Lab Code: K2507459-011
Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry

Analyte Name	Sample Result	Result	Matrix Spike K2507459-011MS		Result	Duplicate Matrix Spike K2507459-011DMS		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Sulfide, Total	ND U	340	420	80	360	430	83	28-175	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/1/25
Date Extracted: 08/1/25

**Duplicate Matrix Spike Summary
Sulfide, Total**

Sample Name: 2025KGMLSCS3
Lab Code: K2507459-027
Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry

Analyte Name	Sample Result	Result	Matrix Spike K2507459-027MS		Duplicate Matrix Spike K2507459-027DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Sulfide, Total	ND U	440	440	99	420	440	96	28-175	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 07/31/25
Date Extracted: 07/31/25

Lab Control Sample Summary
Sulfide, Total

Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry
Analysis Lot: 888233

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2507459-LCS1	304	300	101	39-166

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/01/25
Date Extracted: 08/01/25

Lab Control Sample Summary
Sulfide, Total

Analysis Method: PSEP Sulfide
Prep Method: Method

Units: mg/Kg
Basis: Dry
Analysis Lot: 888367

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2507459-LCS2	307	300	102	39-166

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

Continuing Calibration Verification (CCV) Summary

Sulfide, Total

Analysis Method: PSEP Sulfide

Units: mg/L

	Analysis		Date	True	Measured	Percent	Acceptance
	Lot	Lab Code	Analyzed	Value	Value	Recovery	Limits
CCV1	888233	KQ2513621-01	07/31/25 20:50	0.450	0.464	103	90-110
CCV2	888233	KQ2513621-02	07/31/25 20:50	0.450	0.464	103	90-110
CCV3	888233	KQ2513621-03	07/31/25 20:50	0.450	0.462	103	90-110
CCV4	888233	KQ2513621-04	07/31/25 20:50	0.450	0.463	103	90-110
CCV5	888367	KQ2513757-01	08/01/25 19:35	0.452	0.462	102	90-110
CCV6	888367	KQ2513757-02	08/01/25 19:35	0.452	0.461	102	90-110
CCV7	888367	KQ2513757-03	08/01/25 19:35	0.452	0.463	103	90-110

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

Continuing Calibration Blank (CCB) Summary
Sulfide, Total

Analysis Method: PSEP Sulfide

Units: mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	888233	KQ2513621-05	07/31/25 20:50	1.0	0.3	ND	U
CCB2	888233	KQ2513621-06	07/31/25 20:50	1.0	0.3	ND	U
CCB3	888233	KQ2513621-07	07/31/25 20:50	1.0	0.3	ND	U
CCB4	888233	KQ2513621-08	07/31/25 20:50	1.0	0.3	ND	U
CCB5	888367	KQ2513757-04	08/01/25 19:35	1.0	0.3	ND	U
CCB6	888367	KQ2513757-05	08/01/25 19:35	1.0	0.3	ND	U
CCB7	888367	KQ2513757-06	08/01/25 19:35	1.0	0.3	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Analysis Method: PSEP TOC
Prep Method: ALS SOP

Service Request: K2507459
Date Collected: 07/24/25 - 07/25/25
Date Received: 07/29/25
Units: Percent
Basis: Dry, per Method

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2025KGMUJCSP1S1	K2507459-001	0.29	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUJCSP1S2	K2507459-002	0.76	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUJCSP1S3	K2507459-003	0.71	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLJCS1	K2507459-004	0.65	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLJCS2	K2507459-005	1.15	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLJCS3	K2507459-006	0.41	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMEFSCS2	K2507459-007	1.23	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP1S1	K2507459-008	1.01	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP1S2	K2507459-009	1.27	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP1S3	K2507459-010	0.86	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP2S1	K2507459-011	0.56	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP2S2	K2507459-012	1.00	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSCSP2S3	K2507459-013	0.72	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMEFSCS1	K2507459-014	2.15	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLSHSP1S1	K2507459-015	0.34	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLSHSP1S2	K2507459-016	0.38	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMLSHSP1S3	K2507459-017	0.35	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSHS1	K2507459-018	0.35	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSHS2	K2507459-019	0.32	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMUSHS3	K2507459-020	0.27	0.10	0.005	1	08/05/25 09:39	8/5/25	
2025KGMEFSCS3	K2507459-021	3.79	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMWFSCS1	K2507459-022	0.99	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMWFSCS2	K2507459-023	0.68	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMWFSCS3	K2507459-024	0.53	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMLSCS1	K2507459-025	0.63	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMLSCS2	K2507459-026	0.44	0.10	0.005	1	08/06/25 08:04	8/5/25	
2025KGMLSCS3	K2507459-027	0.50	0.10	0.005	1	08/06/25 08:04	8/5/25	
Method Blank	K2507459-MB1	0.006 J	0.10	0.005	1	08/05/25 09:39	8/5/25	
Method Blank	K2507459-MB2	ND U	0.10	0.005	1	08/06/25 08:04	8/5/25	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/05/25

Triplicate Sample Summary
General Chemistry Parameters

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001
Analysis Method: PSEP TOC
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method

Analyte Name	MRL	MDL	Sample Result	Duplicate K2507459-001DUP Result	Triplicate K2507459-001TRP Result	Average	RSD	RSD Limit
Carbon, Total Organic (TOC)	0.10	0.005	0.29	0.29	0.29	0.290	<1	27

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/5/25
Date Extracted: 08/5/25

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001
Analysis Method: PSEP TOC
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method

Analyte Name	Sample Result	Matrix Spike K2507459-001MS			Duplicate Matrix Spike K2507459-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic (TOC)	0.29	2.63	2.41	97	2.62	2.40	97	69-123	<1	27

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/05/25
Date Extracted: 08/05/25

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method: PSEP TOC
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method
Analysis Lot: 888547

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2507459-LCS1	3.03	2.99	101	74-118

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/06/25
Date Extracted: 08/05/25

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method: PSEP TOC
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method
Analysis Lot: 888661

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2507459-LCS2	2.96	2.99	99	74-118

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: PSEP TOC

Units: Percent

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	888547	KQ2513782-01	08/05/25 09:39	12.0	11.9	99	90-110
CCV2	888547	KQ2513782-02	08/05/25 09:39	12.0	12.1	101	90-110
CCV3	888547	KQ2513782-03	08/05/25 09:39	12.0	12.1	101	90-110
CCV4	888547	KQ2513782-04	08/05/25 09:39	12.0	12.1	100	90-110
CCV5	888661	KQ2513843-01	08/06/25 08:04	12.0	11.7	98	90-110
CCV6	888661	KQ2513843-02	08/06/25 08:04	12.0	11.8	98	90-110
CCV7	888661	KQ2513843-03	08/06/25 08:04	12.0	11.8	98	90-110

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request:K2507459

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: PSEP TOC

Units:Percent

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	888547	KQ2513782-05	08/05/25 09:39	0.10	0.005	0.007	J
CCB2	888547	KQ2513782-06	08/05/25 09:39	0.10	0.005	0.006	J
CCB3	888547	KQ2513782-07	08/05/25 09:39	0.10	0.005	0.007	J
CCB4	888547	KQ2513782-08	08/05/25 09:39	0.10	0.005	0.006	J
CCB5	888661	KQ2513843-04	08/06/25 08:04	0.10	0.005	ND	U
CCB6	888661	KQ2513843-05	08/06/25 08:04	0.10	0.005	ND	U
CCB7	888661	KQ2513843-06	08/06/25 08:04	0.10	0.005	ND	U

ALS Group USA, Corp.
 dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUJCSP1S1
 Lab Code: K2507459-001

Sand Fraction: Dry Weight (Grams) 22.6951
 Sand Fraction: Weight Recovered (Grams) 22.6580
 Sand Fraction: Percent Recovery 99.84

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	2.0954	9.01
Very Coarse Sand	-1 to 0 Ø	2.2922	9.85
Coarse Sand	0 to 1 Ø	4.7604	20.47
Medium Sand	1 to 2 Ø	7.3794	31.73
Fine Sand	2 to 3 Ø	4.4648	19.20
Very Fine Sand	3 to 4 Ø	1.5024	6.46
62.5 µm	4 to 5 Ø	0.3650	1.57
31.3 µm	5 to 6 Ø	0.3150	1.35
15.6 µm	6 to 7 Ø	0.1450	0.62
7.8 µm	7 to 8 Ø	0.0650	0.28
3.9 µm	8 to 9 Ø	0.0350	0.15
1.95 µm	9 to 10 Ø	0.0350	0.15
0.98 µm	> 10 Ø	0.0950	0.41
		23.5496	101.25

ALS Group USA, Corp.
 dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUJCSP1S2
 Lab Code: K2507459-002

Sand Fraction: Dry Weight (Grams) 21.8341
 Sand Fraction: Weight Recovered (Grams) 21.7711
 Sand Fraction: Percent Recovery 99.71

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	3.0404	13.28
Very Coarse Sand	-1 to 0 Ø	4.1023	17.91
Coarse Sand	0 to 1 Ø	2.7266	11.91
Medium Sand	1 to 2 Ø	2.9613	12.93
Fine Sand	2 to 3 Ø	3.3233	14.51
Very Fine Sand	3 to 4 Ø	4.9971	21.82
62.5 µm	4 to 5 Ø	1.4050	6.13
31.3 µm	5 to 6 Ø	0.3650	1.59
15.6 µm	6 to 7 Ø	0.1900	0.83
7.8 µm	7 to 8 Ø	0.0050	0.02
3.9 µm	8 to 9 Ø	0.0350	0.15
1.95 µm	9 to 10 Ø	0.0900	0.39
0.98 µm	> 10 Ø	0.1700	0.74
		23.4110	102.22

ALS Group USA, Corp.
 dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUJCSP1S2
 Lab Code: K2507459-002DUP

Sand Fraction: Dry Weight (Grams) 23.1798
 Sand Fraction: Weight Recovered (Grams) 23.0392
 Sand Fraction: Percent Recovery 99.39

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	4.0832	17.57
Very Coarse Sand	-1 to 0 Ø	3.9412	16.96
Coarse Sand	0 to 1 Ø	3.5123	15.11
Medium Sand	1 to 2 Ø	4.2145	18.13
Fine Sand	2 to 3 Ø	3.4096	14.67
Very Fine Sand	3 to 4 Ø	3.6146	15.55
62.5 µm	4 to 5 Ø	0.8950	3.85
31.3 µm	5 to 6 Ø	0.3650	1.57
15.6 µm	6 to 7 Ø	0.2300	0.99
7.8 µm	7 to 8 Ø	0.0600	0.26
3.9 µm	8 to 9 Ø	0.0850	0.37
1.95 µm	9 to 10 Ø	0.0150	0.06
0.98 µm	> 10 Ø	0.1450	0.62
		24.5704	105.73

ALS Group USA, Corp.
 dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUJCSP1S2
 Lab Code: K2507459-002TRP

Sand Fraction: Dry Weight (Grams) 24.5386
 Sand Fraction: Weight Recovered (Grams) 24.4253
 Sand Fraction: Percent Recovery 99.54

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	5.5315	22.32
Very Coarse Sand	-1 to 0 Ø	5.0501	20.38
Coarse Sand	0 to 1 Ø	3.2997	13.31
Medium Sand	1 to 2 Ø	3.1309	12.63
Fine Sand	2 to 3 Ø	3.0782	12.42
Very Fine Sand	3 to 4 Ø	3.8835	15.67
62.5 µm	4 to 5 Ø	1.3650	5.51
31.3 µm	5 to 6 Ø	0.5550	2.24
15.6 µm	6 to 7 Ø	0.2850	1.15
7.8 µm	7 to 8 Ø	0.1700	0.69
3.9 µm	8 to 9 Ø	0.0150	0.06
1.95 µm	9 to 10 Ø	0.1050	0.42
0.98 µm	> 10 Ø	0.0400	0.16
		26.5089	106.96

ALS Group USA, Corp.
 dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUJCSP1S3
 Lab Code: K2507459-003

Sand Fraction: Dry Weight (Grams) 20.4624
 Sand Fraction: Weight Recovered (Grams) 20.4337
 Sand Fraction: Percent Recovery 99.86

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.6355	2.94
Very Coarse Sand	-1 to 0 Ø	2.4742	11.46
Coarse Sand	0 to 1 Ø	3.5959	16.65
Medium Sand	1 to 2 Ø	5.2777	24.44
Fine Sand	2 to 3 Ø	5.0626	23.44
Very Fine Sand	3 to 4 Ø	2.9930	13.86
62.5 µm	4 to 5 Ø	1.0100	4.68
31.3 µm	5 to 6 Ø	0.4550	2.11
15.6 µm	6 to 7 Ø	0.1400	0.65
7.8 µm	7 to 8 Ø	0.0700	0.32
3.9 µm	8 to 9 Ø	0.0150	0.07
1.95 µm	9 to 10 Ø	0.0950	0.44
0.98 µm	> 10 Ø	0.0500	0.23
		21.8739	101.28

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLJCS1
 Lab Code: K2507459-004

Sand Fraction: Dry Weight (Grams) 19.5479
 Sand Fraction: Weight Recovered (Grams) 19.4441
 Sand Fraction: Percent Recovery 99.47

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.0550	0.26
Very Coarse Sand	-1 to 0 Ø	0.4199	2.01
Coarse Sand	0 to 1 Ø	1.9042	9.10
Medium Sand	1 to 2 Ø	6.6920	31.97
Fine Sand	2 to 3 Ø	7.0553	33.70
Very Fine Sand	3 to 4 Ø	2.7777	13.27
62.5 µm	4 to 5 Ø	1.0300	4.92
31.3 µm	5 to 6 Ø	0.5400	2.58
15.6 µm	6 to 7 Ø	0.2950	1.41
7.8 µm	7 to 8 Ø	0.1400	0.67
3.9 µm	8 to 9 Ø	0.0600	0.29
1.95 µm	9 to 10 Ø	0.1300	0.62
0.98 µm	> 10 Ø	0.0400	0.19
		21.1391	100.98

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLJCS2
 Lab Code: K2507459-005

Sand Fraction: Dry Weight (Grams) 18.7655
 Sand Fraction: Weight Recovered (Grams) 18.8341
 Sand Fraction: Percent Recovery 100.37

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.1552	0.75
Very Coarse Sand	-1 to 0 Ø	0.3774	1.83
Coarse Sand	0 to 1 Ø	0.5951	2.88
Medium Sand	1 to 2 Ø	3.8737	18.77
Fine Sand	2 to 3 Ø	8.8854	43.05
Very Fine Sand	3 to 4 Ø	4.3980	21.31
62.5 µm	4 to 5 Ø	1.2150	5.89
31.3 µm	5 to 6 Ø	0.6900	3.34
15.6 µm	6 to 7 Ø	0.3550	1.72
7.8 µm	7 to 8 Ø	0.2250	1.09
3.9 µm	8 to 9 Ø	0.1000	0.48
1.95 µm	9 to 10 Ø	0.1000	0.48
0.98 µm	> 10 Ø	0.0650	0.31
		21.0348	101.92

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLJCS3
 Lab Code: K2507459-006

Sand Fraction: Dry Weight (Grams) 22.5241
 Sand Fraction: Weight Recovered (Grams) 23.1085
 Sand Fraction: Percent Recovery 102.59

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	1.1529	4.77
Very Coarse Sand	-1 to 0 Ø	1.2039	4.98
Coarse Sand	0 to 1 Ø	3.6827	15.22
Medium Sand	1 to 2 Ø	9.7910	40.47
Fine Sand	2 to 3 Ø	5.8550	24.20
Very Fine Sand	3 to 4 Ø	1.1604	4.80
62.5 µm	4 to 5 Ø	0.9000	3.72
31.3 µm	5 to 6 Ø	0.4950	2.05
15.6 µm	6 to 7 Ø	0.3650	1.51
7.8 µm	7 to 8 Ø	0.2400	0.99
3.9 µm	8 to 9 Ø	0.1500	0.62
1.95 µm	9 to 10 Ø	0.0750	0.31
0.98 µm	> 10 Ø	0.0900	0.37
		25.1609	104.01

dba ALS Environmental
Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMEFSCS2
Lab Code: K2507459-007

Sand Fraction: Dry Weight (Grams) 21.6632
Sand Fraction: Weight Recovered (Grams) 21.6719
Sand Fraction: Percent Recovery 100.04

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	14.6031	70.92
Very Coarse Sand	-1 to 0 Ø	4.7853	23.24
Coarse Sand	0 to 1 Ø	1.5916	7.73
Medium Sand	1 to 2 Ø	0.4236	2.06
Fine Sand	2 to 3 Ø	0.1515	0.74
Very Fine Sand	3 to 4 Ø	0.0753	0.37
62.5 µm	4 to 5 Ø	0.0750	0.36
31.3 µm	5 to 6 Ø	0.0050	0.02
15.6 µm	6 to 7 Ø	0.0300	0.15
7.8 µm	7 to 8 Ø	0.0050	0.02
3.9 µm	8 to 9 Ø	0.0300	0.15
1.95 µm	9 to 10 Ø	0.1100	0.53
0.98 µm	> 10 Ø	0.0450	0.22
		21.9304	106.50

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP1S1
Lab Code: K2507459-008

Sand Fraction: Dry Weight (Grams) 21.5362
Sand Fraction: Weight Recovered (Grams) 21.5357
Sand Fraction: Percent Recovery 100.00

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	9.6141	47.28
Very Coarse Sand	-1 to 0 Ø	4.5511	22.38
Coarse Sand	0 to 1 Ø	2.9759	14.63
Medium Sand	1 to 2 Ø	2.3501	11.56
Fine Sand	2 to 3 Ø	1.4000	6.88
Very Fine Sand	3 to 4 Ø	0.5735	2.82
62.5 µm	4 to 5 Ø	0.1500	0.74
31.3 µm	5 to 6 Ø	0.1300	0.64
15.6 µm	6 to 7 Ø	0.1050	0.52
7.8 µm	7 to 8 Ø	0.0700	0.34
3.9 µm	8 to 9 Ø	0.0050	0.02
1.95 µm	9 to 10 Ø	0.1100	0.54
0.98 µm	> 10 Ø	0.0200	0.10
		22.0547	108.45

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP1S2
 Lab Code: K2507459-009

Sand Fraction: Dry Weight (Grams) 22.9129
 Sand Fraction: Weight Recovered (Grams) 22.9004
 Sand Fraction: Percent Recovery 99.95

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	11.6115	55.28
Very Coarse Sand	-1 to 0 Ø	3.0269	14.41
Coarse Sand	0 to 1 Ø	3.4379	16.37
Medium Sand	1 to 2 Ø	2.9983	14.28
Fine Sand	2 to 3 Ø	1.2751	6.07
Very Fine Sand	3 to 4 Ø	0.4811	2.29
62.5 µm	4 to 5 Ø	0.1500	0.71
31.3 µm	5 to 6 Ø	0.1350	0.64
15.6 µm	6 to 7 Ø	0.1900	0.90
7.8 µm	7 to 8 Ø	0.1200	0.57
3.9 µm	8 to 9 Ø	0.0150	0.07
1.95 µm	9 to 10 Ø	0.0150	0.07
0.98 µm	> 10 Ø	0.1700	0.81
		23.6258	112.49

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP1S3
 Lab Code: K2507459-010

Sand Fraction: Dry Weight (Grams) 22.9076
 Sand Fraction: Weight Recovered (Grams) 22.9596
 Sand Fraction: Percent Recovery 100.23

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	11.7408	52.56
Very Coarse Sand	-1 to 0 Ø	5.5273	24.75
Coarse Sand	0 to 1 Ø	3.6057	16.14
Medium Sand	1 to 2 Ø	1.1689	5.23
Fine Sand	2 to 3 Ø	0.5041	2.26
Very Fine Sand	3 to 4 Ø	0.1828	0.82
62.5 µm	4 to 5 Ø	0.0800	0.36
31.3 µm	5 to 6 Ø	0.0350	0.16
15.6 µm	6 to 7 Ø	0.0400	0.18
7.8 µm	7 to 8 Ø	0.0000	0.00
3.9 µm	8 to 9 Ø	0.0100	0.04
1.95 µm	9 to 10 Ø	0.0900	0.40
0.98 µm	> 10 Ø	0.0400	0.18
		23.0246	103.08

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP2S1
 Lab Code: K2507459-011

Sand Fraction: Dry Weight (Grams) 23.7947
 Sand Fraction: Weight Recovered (Grams) 23.7343
 Sand Fraction: Percent Recovery 99.75

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	12.1896	54.35
Very Coarse Sand	-1 to 0 Ø	7.6954	34.31
Coarse Sand	0 to 1 Ø	2.8802	12.84
Medium Sand	1 to 2 Ø	0.6323	2.82
Fine Sand	2 to 3 Ø	0.1813	0.81
Very Fine Sand	3 to 4 Ø	0.0980	0.44
62.5 µm	4 to 5 Ø	0.0250	0.11
31.3 µm	5 to 6 Ø	0.0300	0.13
15.6 µm	6 to 7 Ø	0.0550	0.25
7.8 µm	7 to 8 Ø	0.0100	0.04
3.9 µm	8 to 9 Ø	0.0050	0.02
1.95 µm	9 to 10 Ø	0.0050	0.02
0.98 µm	> 10 Ø	0.1350	0.60
		23.9418	106.76

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP2S2
 Lab Code: K2507459-012

Sand Fraction: Dry Weight (Grams) 23.8933
 Sand Fraction: Weight Recovered (Grams) 23.9272
 Sand Fraction: Percent Recovery 100.14

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	11.8446	50.13
Very Coarse Sand	-1 to 0 Ø	6.3084	26.70
Coarse Sand	0 to 1 Ø	3.3405	14.14
Medium Sand	1 to 2 Ø	1.5049	6.37
Fine Sand	2 to 3 Ø	0.6409	2.71
Very Fine Sand	3 to 4 Ø	0.2348	0.99
62.5 µm	4 to 5 Ø	0.0600	0.25
31.3 µm	5 to 6 Ø	0.1150	0.49
15.6 µm	6 to 7 Ø	0.1050	0.44
7.8 µm	7 to 8 Ø	0.0850	0.36
3.9 µm	8 to 9 Ø	0.0050	0.02
1.95 µm	9 to 10 Ø	0.0300	0.13
0.98 µm	> 10 Ø	0.1150	0.49
		24.3891	103.22

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSCSP2S3
 Lab Code: K2507459-013

Sand Fraction: Dry Weight (Grams) 24.0690
 Sand Fraction: Weight Recovered (Grams) 24.0880
 Sand Fraction: Percent Recovery 100.08

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	13.0204	59.09
Very Coarse Sand	-1 to 0 Ø	5.2948	24.03
Coarse Sand	0 to 1 Ø	3.2806	14.89
Medium Sand	1 to 2 Ø	1.6434	7.46
Fine Sand	2 to 3 Ø	0.5817	2.64
Very Fine Sand	3 to 4 Ø	0.2004	0.91
62.5 µm	4 to 5 Ø	0.0000	0.00
31.3 µm	5 to 6 Ø	0.1000	0.45
15.6 µm	6 to 7 Ø	0.0050	0.02
7.8 µm	7 to 8 Ø	0.0050	0.02
3.9 µm	8 to 9 Ø	0.0350	0.16
1.95 µm	9 to 10 Ø	0.0450	0.20
0.98 µm	> 10 Ø	0.0550	0.25
		24.2663	110.12

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMEFSCS1
 Lab Code: K2507459-014

Sand Fraction: Dry Weight (Grams) 19.8678
 Sand Fraction: Weight Recovered (Grams) 19.9670
 Sand Fraction: Percent Recovery 100.50

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	6.4287	33.69
Very Coarse Sand	-1 to 0 Ø	7.0627	37.01
Coarse Sand	0 to 1 Ø	2.1678	11.36
Medium Sand	1 to 2 Ø	3.3810	17.72
Fine Sand	2 to 3 Ø	0.6587	3.45
Very Fine Sand	3 to 4 Ø	0.2392	1.25
62.5 µm	4 to 5 Ø	0.1450	0.76
31.3 µm	5 to 6 Ø	0.0000	0.00
15.6 µm	6 to 7 Ø	0.0750	0.39
7.8 µm	7 to 8 Ø	0.0950	0.50
3.9 µm	8 to 9 Ø	0.0350	0.18
1.95 µm	9 to 10 Ø	0.0100	0.05
0.98 µm	> 10 Ø	0.1200	0.63
		20.4181	107.01

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSHSP1S1
 Lab Code: K2507459-015

Sand Fraction: Dry Weight (Grams) 21.0345
 Sand Fraction: Weight Recovered (Grams) 20.9570
 Sand Fraction: Percent Recovery 99.63

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.8821	4.19
Very Coarse Sand	-1 to 0 Ø	6.9969	33.26
Coarse Sand	0 to 1 Ø	10.3686	49.29
Medium Sand	1 to 2 Ø	2.5093	11.93
Fine Sand	2 to 3 Ø	0.1432	0.68
Very Fine Sand	3 to 4 Ø	0.0395	0.19
62.5 µm	4 to 5 Ø	0.0050	0.02
31.3 µm	5 to 6 Ø	0.0350	0.17
15.6 µm	6 to 7 Ø	0.0350	0.17
7.8 µm	7 to 8 Ø	0.0750	0.36
3.9 µm	8 to 9 Ø	0.0150	0.07
1.95 µm	9 to 10 Ø	0.0450	0.21
0.98 µm	> 10 Ø	0.0450	0.21
		21.1946	100.75

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSHSP1S2
 Lab Code: K2507459-016

Sand Fraction: Dry Weight (Grams) 23.3332
 Sand Fraction: Weight Recovered (Grams) 23.2671
 Sand Fraction: Percent Recovery 99.72

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	1.8135	8.39
Very Coarse Sand	-1 to 0 Ø	6.1688	28.54
Coarse Sand	0 to 1 Ø	8.0304	37.16
Medium Sand	1 to 2 Ø	4.9880	23.08
Fine Sand	2 to 3 Ø	1.8142	8.39
Very Fine Sand	3 to 4 Ø	0.4244	1.96
62.5 µm	4 to 5 Ø	0.0600	0.28
31.3 µm	5 to 6 Ø	0.0700	0.32
15.6 µm	6 to 7 Ø	0.0300	0.14
7.8 µm	7 to 8 Ø	0.0050	0.02
3.9 µm	8 to 9 Ø	0.0250	0.12
1.95 µm	9 to 10 Ø	0.0150	0.07
0.98 µm	> 10 Ø	0.1200	0.56
		23.5643	109.04

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSHSP1S3
Lab Code: K2507459-017

Sand Fraction: Dry Weight (Grams) 21.8748
Sand Fraction: Weight Recovered (Grams) 21.7914
Sand Fraction: Percent Recovery 99.62

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	4.9120	23.23
Very Coarse Sand	-1 to 0 Ø	5.8489	27.66
Coarse Sand	0 to 1 Ø	6.9573	32.90
Medium Sand	1 to 2 Ø	3.3510	15.85
Fine Sand	2 to 3 Ø	0.6018	2.85
Very Fine Sand	3 to 4 Ø	0.1101	0.52
62.5 µm	4 to 5 Ø	0.0100	0.05
31.3 µm	5 to 6 Ø	0.0350	0.17
15.6 µm	6 to 7 Ø	0.0150	0.07
7.8 µm	7 to 8 Ø	0.0400	0.19
3.9 µm	8 to 9 Ø	0.0050	0.02
1.95 µm	9 to 10 Ø	0.0750	0.35
0.98 µm	> 10 Ø	0.0400	0.19
		22.0011	104.03

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSHS1
Lab Code: K2507459-018

Sand Fraction: Dry Weight (Grams) 21.2352
Sand Fraction: Weight Recovered (Grams) 21.1423
Sand Fraction: Percent Recovery 99.56

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	4.2308	18.83
Very Coarse Sand	-1 to 0 Ø	4.2833	19.07
Coarse Sand	0 to 1 Ø	5.1488	22.92
Medium Sand	1 to 2 Ø	4.3037	19.16
Fine Sand	2 to 3 Ø	2.3155	10.31
Very Fine Sand	3 to 4 Ø	0.7682	3.42
62.5 µm	4 to 5 Ø	0.1700	0.76
31.3 µm	5 to 6 Ø	0.1100	0.49
15.6 µm	6 to 7 Ø	0.1400	0.62
7.8 µm	7 to 8 Ø	0.0900	0.40
3.9 µm	8 to 9 Ø	0.0450	0.20
1.95 µm	9 to 10 Ø	0.0300	0.13
0.98 µm	> 10 Ø	0.0850	0.38
		21.7203	96.69

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSHS2
 Lab Code: K2507459-019

Sand Fraction: Dry Weight (Grams) 24.6705
 Sand Fraction: Weight Recovered (Grams) 24.6288
 Sand Fraction: Percent Recovery 99.83

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	2.3009	9.53
Very Coarse Sand	-1 to 0 Ø	5.5201	22.87
Coarse Sand	0 to 1 Ø	7.9630	32.99
Medium Sand	1 to 2 Ø	6.2603	25.93
Fine Sand	2 to 3 Ø	2.1087	8.73
Very Fine Sand	3 to 4 Ø	0.4468	1.85
62.5 µm	4 to 5 Ø	0.0000	0.00
31.3 µm	5 to 6 Ø	0.0500	0.21
15.6 µm	6 to 7 Ø	0.0650	0.27
7.8 µm	7 to 8 Ø	0.1000	0.41
3.9 µm	8 to 9 Ø	0.0300	0.12
1.95 µm	9 to 10 Ø	0.0350	0.14
0.98 µm	> 10 Ø	0.0850	0.35
		24.9648	103.41

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/12/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMUSHS3
 Lab Code: K2507459-020

Sand Fraction: Dry Weight (Grams) 26.9521
 Sand Fraction: Weight Recovered (Grams) 26.8568
 Sand Fraction: Percent Recovery 99.65

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	12.7984	50.53
Very Coarse Sand	-1 to 0 Ø	8.2259	32.48
Coarse Sand	0 to 1 Ø	4.3407	17.14
Medium Sand	1 to 2 Ø	1.1688	4.61
Fine Sand	2 to 3 Ø	0.2555	1.01
Very Fine Sand	3 to 4 Ø	0.0625	0.25
62.5 µm	4 to 5 Ø	0.0200	0.08
31.3 µm	5 to 6 Ø	0.0850	0.34
15.6 µm	6 to 7 Ø	0.0050	0.02
7.8 µm	7 to 8 Ø	0.0800	0.32
3.9 µm	8 to 9 Ø	0.0200	0.08
1.95 µm	9 to 10 Ø	0.0100	0.04
0.98 µm	> 10 Ø	0.0750	0.30
		27.1468	107.18

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMEFSCS3
 Lab Code: K2507459-021

Sand Fraction: Dry Weight (Grams) 19.5010
 Sand Fraction: Weight Recovered (Grams) 19.4865
 Sand Fraction: Percent Recovery 99.93

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	4.2074	22.33
Very Coarse Sand	-1 to 0 Ø	8.0764	42.87
Coarse Sand	0 to 1 Ø	1.1015	5.85
Medium Sand	1 to 2 Ø	0.2793	1.48
Fine Sand	2 to 3 Ø	0.1291	0.69
Very Fine Sand	3 to 4 Ø	5.5912	29.68
62.5 µm	4 to 5 Ø	0.1000	0.53
31.3 µm	5 to 6 Ø	0.0050	0.03
15.6 µm	6 to 7 Ø	0.0700	0.37
7.8 µm	7 to 8 Ø	0.0000	0.00
3.9 µm	8 to 9 Ø	0.0100	0.05
1.95 µm	9 to 10 Ø	0.1400	0.74
0.98 µm	> 10 Ø	0.0250	0.13
		19.7349	104.75

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMEFSCS3
 Lab Code: K2507459-021DUP

Sand Fraction: Dry Weight (Grams) 18.2549
 Sand Fraction: Weight Recovered (Grams) 18.2812
 Sand Fraction: Percent Recovery 100.14

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	4.1489	22.01
Very Coarse Sand	-1 to 0 Ø	7.6881	40.78
Coarse Sand	0 to 1 Ø	4.7660	25.28
Medium Sand	1 to 2 Ø	1.2048	6.39
Fine Sand	2 to 3 Ø	0.2990	1.59
Very Fine Sand	3 to 4 Ø	0.1044	0.55
62.5 µm	4 to 5 Ø	0.0500	0.27
31.3 µm	5 to 6 Ø	0.0100	0.05
15.6 µm	6 to 7 Ø	0.0350	0.19
7.8 µm	7 to 8 Ø	0.0200	0.11
3.9 µm	8 to 9 Ø	0.0050	0.03
1.95 µm	9 to 10 Ø	0.1050	0.56
0.98 µm	> 10 Ø	0.0750	0.40
		18.5112	98.19

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMEFSCS3
 Lab Code: K2507459-021TRP

Sand Fraction: Dry Weight (Grams) 19.9883
 Sand Fraction: Weight Recovered (Grams) 20.0669
 Sand Fraction: Percent Recovery 100.39

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	6.1121	32.64
Very Coarse Sand	-1 to 0 Ø	7.1762	38.32
Coarse Sand	0 to 1 Ø	4.9881	26.64
Medium Sand	1 to 2 Ø	1.2986	6.94
Fine Sand	2 to 3 Ø	0.2923	1.56
Very Fine Sand	3 to 4 Ø	0.1125	0.60
62.5 µm	4 to 5 Ø	0.0300	0.16
31.3 µm	5 to 6 Ø	0.0900	0.48
15.6 µm	6 to 7 Ø	0.0350	0.19
7.8 µm	7 to 8 Ø	0.0150	0.08
3.9 µm	8 to 9 Ø	0.0550	0.29
1.95 µm	9 to 10 Ø	0.0400	0.21
0.98 µm	> 10 Ø	0.0900	0.48
		20.3348	108.60

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMWFSCS1
 Lab Code: K2507459-022

Sand Fraction: Dry Weight (Grams) 19.1225
 Sand Fraction: Weight Recovered (Grams) 19.0502
 Sand Fraction: Percent Recovery 99.62

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.7553	3.68
Very Coarse Sand	-1 to 0 Ø	1.1484	5.59
Coarse Sand	0 to 1 Ø	5.2380	25.52
Medium Sand	1 to 2 Ø	8.1818	39.86
Fine Sand	2 to 3 Ø	2.7176	13.24
Very Fine Sand	3 to 4 Ø	0.9925	4.83
62.5 µm	4 to 5 Ø	0.2900	1.41
31.3 µm	5 to 6 Ø	0.2450	1.19
15.6 µm	6 to 7 Ø	0.2350	1.14
7.8 µm	7 to 8 Ø	0.0850	0.41
3.9 µm	8 to 9 Ø	0.0600	0.29
1.95 µm	9 to 10 Ø	0.0050	0.02
0.98 µm	> 10 Ø	0.1300	0.63
		20.0836	97.83

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMWFSCS2
 Lab Code: K2507459-023

Sand Fraction: Dry Weight (Grams) 19.8911
 Sand Fraction: Weight Recovered (Grams) 19.8757
 Sand Fraction: Percent Recovery 99.92

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	0.6949	3.49
Very Coarse Sand	-1 to 0 Ø	1.6952	8.51
Coarse Sand	0 to 1 Ø	5.7605	28.93
Medium Sand	1 to 2 Ø	7.9215	39.78
Fine Sand	2 to 3 Ø	3.0268	15.20
Very Fine Sand	3 to 4 Ø	0.7020	3.53
62.5 µm	4 to 5 Ø	0.0700	0.35
31.3 µm	5 to 6 Ø	0.1900	0.95
15.6 µm	6 to 7 Ø	0.1100	0.55
7.8 µm	7 to 8 Ø	0.0000	0.00
3.9 µm	8 to 9 Ø	0.0200	0.10
1.95 µm	9 to 10 Ø	0.0500	0.25
0.98 µm	> 10 Ø	0.0800	0.40
		20.3209	102.04

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMWFSCS3
 Lab Code: K2507459-024

Sand Fraction: Dry Weight (Grams) 22.1416
 Sand Fraction: Weight Recovered (Grams) 22.0663
 Sand Fraction: Percent Recovery 99.66

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	1.0743	4.86
Very Coarse Sand	-1 to 0 Ø	3.7175	16.81
Coarse Sand	0 to 1 Ø	9.7795	44.22
Medium Sand	1 to 2 Ø	6.2370	28.20
Fine Sand	2 to 3 Ø	1.0876	4.92
Very Fine Sand	3 to 4 Ø	0.1553	0.70
62.5 µm	4 to 5 Ø	0.0400	0.18
31.3 µm	5 to 6 Ø	0.0150	0.07
15.6 µm	6 to 7 Ø	0.0400	0.18
7.8 µm	7 to 8 Ø	0.0100	0.05
3.9 µm	8 to 9 Ø	0.0500	0.23
1.95 µm	9 to 10 Ø	0.0650	0.29
0.98 µm	> 10 Ø	0.0850	0.38
		22.3562	101.09

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSCS1
Lab Code: K2507459-025

Sand Fraction: Dry Weight (Grams) 26.6378
Sand Fraction: Weight Recovered (Grams) 26.7683
Sand Fraction: Percent Recovery 100.49

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	2.1056	7.93
Very Coarse Sand	-1 to 0 Ø	6.5188	24.56
Coarse Sand	0 to 1 Ø	11.4200	43.02
Medium Sand	1 to 2 Ø	5.4696	20.60
Fine Sand	2 to 3 Ø	0.8772	3.30
Very Fine Sand	3 to 4 Ø	0.3318	1.25
62.5 µm	4 to 5 Ø	0.1100	0.41
31.3 µm	5 to 6 Ø	0.1300	0.49
15.6 µm	6 to 7 Ø	0.0850	0.32
7.8 µm	7 to 8 Ø	0.0600	0.23
3.9 µm	8 to 9 Ø	0.0000	0.00
1.95 µm	9 to 10 Ø	0.0700	0.26
0.98 µm	> 10 Ø	0.0900	0.34
		27.2680	102.72

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSCS2
Lab Code: K2507459-026

Sand Fraction: Dry Weight (Grams) 22.7402
Sand Fraction: Weight Recovered (Grams) 22.9390
Sand Fraction: Percent Recovery 100.87

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	5.2202	22.82
Very Coarse Sand	-1 to 0 Ø	6.9458	30.36
Coarse Sand	0 to 1 Ø	6.2780	27.44
Medium Sand	1 to 2 Ø	2.9990	13.11
Fine Sand	2 to 3 Ø	1.2048	5.27
Very Fine Sand	3 to 4 Ø	0.2642	1.15
62.5 µm	4 to 5 Ø	0.0600	0.26
31.3 µm	5 to 6 Ø	0.0700	0.31
15.6 µm	6 to 7 Ø	0.0100	0.04
7.8 µm	7 to 8 Ø	0.0100	0.04
3.9 µm	8 to 9 Ø	0.0400	0.17
1.95 µm	9 to 10 Ø	0.0200	0.09
0.98 µm	> 10 Ø	0.1300	0.57
		23.2520	101.62

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/25/25
Date Received: 07/29/25
Date Analyzed: 08/13/25

Particle Size Determination
 Puget Sound Estuary Program Protocol

Sample Name: 2025KGMLSCS3
 Lab Code: K2507459-027

Sand Fraction: Dry Weight (Grams) 22.4338
 Sand Fraction: Weight Recovered (Grams) 22.3992
 Sand Fraction: Percent Recovery 99.85

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel	<-1 Ø	3.2391	14.81
Very Coarse Sand	-1 to 0 Ø	4.8861	22.34
Coarse Sand	0 to 1 Ø	6.5153	29.79
Medium Sand	1 to 2 Ø	5.5082	25.19
Fine Sand	2 to 3 Ø	1.8698	8.55
Very Fine Sand	3 to 4 Ø	0.3485	1.59
62.5 µm	4 to 5 Ø	0.0250	0.11
31.3 µm	5 to 6 Ø	0.1000	0.46
15.6 µm	6 to 7 Ø	0.0100	0.05
7.8 µm	7 to 8 Ø	0.0500	0.23
3.9 µm	8 to 9 Ø	0.0200	0.09
1.95 µm	9 to 10 Ø	0.0000	0.00
0.98 µm	> 10 Ø	0.1200	0.55
		22.6920	103.75



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001

Service Request: K2507459
Date Collected: 07/24/25 16:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	8330	mg/Kg	4.7	1.3	10	08/01/25 08:40	07/31/25	
Arsenic	6020B	1.86	mg/Kg	0.58	0.06	10	08/01/25 08:40	07/31/25	
Cadmium	6020B	0.088	mg/Kg	0.047	0.008	10	08/01/25 08:40	07/31/25	
Chromium	6020B	19.8	mg/Kg	0.47	0.08	10	08/01/25 08:40	07/31/25	
Copper	6020B	59.3	mg/Kg	0.47	0.15	10	08/01/25 08:40	07/31/25	
Lead	6020B	1.70	mg/Kg	0.12	0.02	10	08/01/25 08:40	07/31/25	
Mercury	7471A	0.009 J	mg/Kg	0.024	0.002	1	08/04/25 10:51	08/01/25	
Nickel	6020B	12.7	mg/Kg	0.47	0.09	10	08/01/25 08:40	07/31/25	
Selenium	6020B	0.5 J	mg/Kg	1.2	0.1	10	08/01/25 08:40	07/31/25	
Silver	6020B	0.056	mg/Kg	0.047	0.008	10	08/01/25 08:40	07/31/25	
Zinc	6020B	38.4	mg/Kg	1.2	0.2	10	08/01/25 08:40	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUJCSP1S2
Lab Code: K2507459-002

Service Request: K2507459
Date Collected: 07/24/25 16:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	9800	mg/Kg	4.8	1.3	10	08/01/25 08:53	07/31/25	
Arsenic	6020B	2.20	mg/Kg	0.59	0.06	10	08/01/25 08:53	07/31/25	
Cadmium	6020B	0.084	mg/Kg	0.048	0.008	10	08/01/25 08:53	07/31/25	
Chromium	6020B	25.9	mg/Kg	0.48	0.08	10	08/01/25 08:53	07/31/25	
Copper	6020B	76.0	mg/Kg	0.48	0.15	10	08/01/25 08:53	07/31/25	
Lead	6020B	3.90	mg/Kg	0.12	0.02	10	08/01/25 08:53	07/31/25	
Mercury	7471A	0.084	mg/Kg	0.025	0.003	1	08/04/25 11:01	08/01/25	
Nickel	6020B	15.5	mg/Kg	0.48	0.10	10	08/01/25 08:53	07/31/25	
Selenium	6020B	0.6 J	mg/Kg	1.2	0.1	10	08/01/25 08:53	07/31/25	
Silver	6020B	0.048	mg/Kg	0.048	0.008	10	08/01/25 08:53	07/31/25	
Zinc	6020B	44.0	mg/Kg	1.2	0.2	10	08/01/25 08:53	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUJCSP1S3
Lab Code: K2507459-003

Service Request: K2507459
Date Collected: 07/24/25 16:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	9320	mg/Kg	4.8	1.3	10	08/01/25 08:55	07/31/25	
Arsenic	6020B	2.15	mg/Kg	0.61	0.06	10	08/01/25 08:55	07/31/25	
Cadmium	6020B	0.088	mg/Kg	0.048	0.008	10	08/01/25 08:55	07/31/25	
Chromium	6020B	23.3	mg/Kg	0.48	0.08	10	08/01/25 08:55	07/31/25	
Copper	6020B	67.2	mg/Kg	0.48	0.16	10	08/01/25 08:55	07/31/25	
Lead	6020B	2.43	mg/Kg	0.12	0.02	10	08/01/25 08:55	07/31/25	
Mercury	7471A	0.017 J	mg/Kg	0.028	0.003	1	08/04/25 11:03	08/01/25	
Nickel	6020B	14.7	mg/Kg	0.48	0.10	10	08/01/25 08:55	07/31/25	
Selenium	6020B	0.3 J	mg/Kg	1.2	0.1	10	08/01/25 08:55	07/31/25	
Silver	6020B	0.033 J	mg/Kg	0.048	0.009	10	08/01/25 08:55	07/31/25	
Zinc	6020B	44.4	mg/Kg	1.2	0.2	10	08/01/25 08:55	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLJCS1
Lab Code: K2507459-004

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	11500	mg/Kg	4.7	1.3	10	08/01/25 08:58	07/31/25	
Arsenic	6020B	15.4	mg/Kg	0.59	0.06	10	08/01/25 08:58	07/31/25	
Cadmium	6020B	0.162	mg/Kg	0.047	0.008	10	08/01/25 08:58	07/31/25	
Chromium	6020B	25.0	mg/Kg	0.47	0.08	10	08/01/25 08:58	07/31/25	
Copper	6020B	82.5	mg/Kg	0.47	0.15	10	08/01/25 08:58	07/31/25	
Lead	6020B	9.12	mg/Kg	0.12	0.02	10	08/01/25 08:58	07/31/25	
Mercury	7471A	0.056	mg/Kg	0.030	0.003	1	08/04/25 11:04	08/01/25	
Nickel	6020B	18.4	mg/Kg	0.47	0.10	10	08/01/25 08:58	07/31/25	
Selenium	6020B	0.4 J	mg/Kg	1.2	0.1	10	08/01/25 08:58	07/31/25	
Silver	6020B	0.277	mg/Kg	0.047	0.008	10	08/01/25 08:58	07/31/25	
Zinc	6020B	88.7	mg/Kg	1.2	0.2	10	08/01/25 08:58	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLJCS2
Lab Code: K2507459-005

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12100	mg/Kg	4.8	1.3	10	08/01/25 09:08	07/31/25	
Arsenic	6020B	28.5	mg/Kg	0.60	0.06	10	08/01/25 09:08	07/31/25	
Cadmium	6020B	0.237	mg/Kg	0.048	0.008	10	08/01/25 09:08	07/31/25	
Chromium	6020B	25.9	mg/Kg	0.48	0.08	10	08/01/25 09:08	07/31/25	
Copper	6020B	98.5	mg/Kg	0.48	0.16	10	08/01/25 09:08	07/31/25	
Lead	6020B	12.3	mg/Kg	0.12	0.02	10	08/01/25 09:08	07/31/25	
Mercury	7471A	0.070	mg/Kg	0.029	0.003	1	08/04/25 11:06	08/01/25	
Nickel	6020B	21.1	mg/Kg	0.48	0.10	10	08/01/25 09:08	07/31/25	
Selenium	6020B	0.5 J	mg/Kg	1.2	0.1	10	08/01/25 09:08	07/31/25	
Silver	6020B	0.413	mg/Kg	0.048	0.009	10	08/01/25 09:08	07/31/25	
Zinc	6020B	103	mg/Kg	1.2	0.2	10	08/01/25 09:08	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLJCS3
Lab Code: K2507459-006

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	11600	mg/Kg	4.3	1.2	10	08/01/25 09:11	07/31/25	
Arsenic	6020B	16.6	mg/Kg	0.54	0.06	10	08/01/25 09:11	07/31/25	
Cadmium	6020B	0.206	mg/Kg	0.043	0.007	10	08/01/25 09:11	07/31/25	
Chromium	6020B	26.0	mg/Kg	0.43	0.07	10	08/01/25 09:11	07/31/25	
Copper	6020B	83.8	mg/Kg	0.43	0.14	10	08/01/25 09:11	07/31/25	
Lead	6020B	8.68	mg/Kg	0.11	0.02	10	08/01/25 09:11	07/31/25	
Mercury	7471A	0.038	mg/Kg	0.030	0.003	1	08/04/25 11:07	08/01/25	
Nickel	6020B	21.4	mg/Kg	0.43	0.09	10	08/01/25 09:11	07/31/25	
Selenium	6020B	0.4 J	mg/Kg	1.1	0.1	10	08/01/25 09:11	07/31/25	
Silver	6020B	0.327	mg/Kg	0.043	0.008	10	08/01/25 09:11	07/31/25	
Zinc	6020B	95.6	mg/Kg	1.1	0.2	10	08/01/25 09:11	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMEFSCS2
Lab Code: K2507459-007

Service Request: K2507459
Date Collected: 07/25/25 14:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	8910	mg/Kg	4.9	1.3	10	08/01/25 09:13	07/31/25	
Arsenic	6020B	21.9	mg/Kg	0.61	0.06	10	08/01/25 09:13	07/31/25	
Cadmium	6020B	3.06	mg/Kg	0.049	0.008	10	08/01/25 09:13	07/31/25	
Chromium	6020B	12.1	mg/Kg	0.49	0.08	10	08/01/25 09:13	07/31/25	
Copper	6020B	34.2	mg/Kg	0.49	0.16	10	08/01/25 09:13	07/31/25	
Lead	6020B	3.12	mg/Kg	0.12	0.02	10	08/01/25 09:13	07/31/25	
Mercury	7471A	0.086	mg/Kg	0.026	0.003	1	08/04/25 11:09	08/01/25	
Nickel	6020B	37.7	mg/Kg	0.49	0.10	10	08/01/25 09:13	07/31/25	
Selenium	6020B	1.2 J	mg/Kg	1.2	0.1	10	08/01/25 09:13	07/31/25	
Silver	6020B	0.082	mg/Kg	0.049	0.009	10	08/01/25 09:13	07/31/25	
Zinc	6020B	271	mg/Kg	1.2	0.2	10	08/01/25 09:13	07/31/25	

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP1S1
Lab Code: K2507459-008

Service Request: K2507459
Date Collected: 07/24/25 15:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12700	mg/Kg	5.1	1.4	10	08/01/25 09:16	07/31/25	
Arsenic	6020B	13.7	mg/Kg	0.64	0.07	10	08/01/25 09:16	07/31/25	
Cadmium	6020B	1.02	mg/Kg	0.051	0.008	10	08/01/25 09:16	07/31/25	
Chromium	6020B	67.8	mg/Kg	0.51	0.09	10	08/01/25 09:16	07/31/25	
Copper	6020B	60.7	mg/Kg	0.51	0.17	10	08/01/25 09:16	07/31/25	
Lead	6020B	4.01	mg/Kg	0.13	0.02	10	08/01/25 09:16	07/31/25	
Mercury	7471A	0.037	mg/Kg	0.027	0.003	1	08/04/25 11:11	08/01/25	
Nickel	6020B	66.5	mg/Kg	0.51	0.10	10	08/01/25 09:16	07/31/25	
Selenium	6020B	3.2	mg/Kg	1.3	0.1	10	08/01/25 09:16	07/31/25	
Silver	6020B	0.146	mg/Kg	0.051	0.009	10	08/01/25 09:16	07/31/25	
Zinc	6020B	134	mg/Kg	1.3	0.2	10	08/01/25 09:16	07/31/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP1S2
Lab Code: K2507459-009

Service Request: K2507459
Date Collected: 07/24/25 15:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12500	mg/Kg	6.0	1.7	10	08/01/25 09:18	07/31/25	
Arsenic	6020B	20.0	mg/Kg	0.76	0.08	10	08/01/25 09:18	07/31/25	
Cadmium	6020B	0.477	mg/Kg	0.060	0.010	10	08/01/25 09:18	07/31/25	
Chromium	6020B	67.0	mg/Kg	0.60	0.10	10	08/01/25 09:18	07/31/25	
Copper	6020B	41.2	mg/Kg	0.60	0.20	10	08/01/25 09:18	07/31/25	
Lead	6020B	9.81	mg/Kg	0.15	0.03	10	08/01/25 09:18	07/31/25	
Mercury	7471A	0.039	mg/Kg	0.034	0.003	1	08/04/25 11:12	08/01/25	
Nickel	6020B	45.6	mg/Kg	0.60	0.12	10	08/01/25 09:18	07/31/25	
Selenium	6020B	3.1	mg/Kg	1.5	0.2	10	08/01/25 09:18	07/31/25	
Silver	6020B	0.201	mg/Kg	0.060	0.011	10	08/01/25 09:18	07/31/25	
Zinc	6020B	96.7	mg/Kg	1.5	0.3	10	08/01/25 09:18	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP1S3
Lab Code: K2507459-010

Service Request: K2507459
Date Collected: 07/24/25 15:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	15700	mg/Kg	4.3	1.2	10	08/01/25 09:21	07/31/25	
Arsenic	6020B	14.6	mg/Kg	0.54	0.06	10	08/01/25 09:21	07/31/25	
Cadmium	6020B	0.620	mg/Kg	0.043	0.007	10	08/01/25 09:21	07/31/25	
Chromium	6020B	102	mg/Kg	0.43	0.07	10	08/01/25 09:21	07/31/25	
Copper	6020B	52.6	mg/Kg	0.43	0.14	10	08/01/25 09:21	07/31/25	
Lead	6020B	3.76	mg/Kg	0.11	0.02	10	08/01/25 09:21	07/31/25	
Mercury	7471A	0.027 J	mg/Kg	0.027	0.003	1	08/04/25 11:17	08/01/25	
Nickel	6020B	58.0	mg/Kg	0.43	0.09	10	08/01/25 09:21	07/31/25	
Selenium	6020B	2.1	mg/Kg	1.1	0.1	10	08/01/25 09:21	07/31/25	
Silver	6020B	0.072	mg/Kg	0.043	0.008	10	08/01/25 09:21	07/31/25	
Zinc	6020B	114	mg/Kg	1.1	0.2	10	08/01/25 09:21	07/31/25	

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dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP2S1
Lab Code: K2507459-011

Service Request: K2507459
Date Collected: 07/24/25 14:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12600	mg/Kg	5.2	1.4	10	08/01/25 09:24	07/31/25	
Arsenic	6020B	14.8	mg/Kg	0.64	0.07	10	08/01/25 09:24	07/31/25	
Cadmium	6020B	0.633	mg/Kg	0.052	0.008	10	08/01/25 09:24	07/31/25	
Chromium	6020B	74.0	mg/Kg	0.52	0.09	10	08/01/25 09:24	07/31/25	
Copper	6020B	31.5	mg/Kg	0.52	0.17	10	08/01/25 09:24	07/31/25	
Lead	6020B	2.21	mg/Kg	0.13	0.02	10	08/01/25 09:24	07/31/25	
Mercury	7471A	0.023 J	mg/Kg	0.026	0.003	1	08/04/25 11:19	08/01/25	
Nickel	6020B	44.1	mg/Kg	0.52	0.10	10	08/01/25 09:24	07/31/25	
Selenium	6020B	0.5 J	mg/Kg	1.3	0.1	10	08/01/25 09:24	07/31/25	
Silver	6020B	0.020 J	mg/Kg	0.052	0.009	10	08/01/25 09:24	07/31/25	
Zinc	6020B	87.3	mg/Kg	1.3	0.2	10	08/01/25 09:24	07/31/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP2S2
Lab Code: K2507459-012

Service Request: K2507459
Date Collected: 07/24/25 14:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	16700	mg/Kg	5.0	1.4	10	08/01/25 09:26	07/31/25	
Arsenic	6020B	14.5	mg/Kg	0.62	0.06	10	08/01/25 09:26	07/31/25	
Cadmium	6020B	0.437	mg/Kg	0.050	0.008	10	08/01/25 09:26	07/31/25	
Chromium	6020B	145	mg/Kg	0.50	0.08	10	08/01/25 09:26	07/31/25	
Copper	6020B	37.5	mg/Kg	0.50	0.16	10	08/01/25 09:26	07/31/25	
Lead	6020B	1.53	mg/Kg	0.12	0.02	10	08/01/25 09:26	07/31/25	
Mercury	7471A	0.016 J	mg/Kg	0.027	0.003	1	08/04/25 11:20	08/01/25	
Nickel	6020B	61.8	mg/Kg	0.50	0.10	10	08/01/25 09:26	07/31/25	
Selenium	6020B	0.3 J	mg/Kg	1.2	0.1	10	08/01/25 09:26	07/31/25	
Silver	6020B	0.016 J	mg/Kg	0.050	0.009	10	08/01/25 09:26	07/31/25	
Zinc	6020B	85.5	mg/Kg	1.2	0.2	10	08/01/25 09:26	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSCSP2S3
Lab Code: K2507459-013

Service Request: K2507459
Date Collected: 07/24/25 14:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	10900	mg/Kg	4.3	1.2	10	08/01/25 09:49	07/31/25	
Arsenic	6020B	20.5	mg/Kg	0.54	0.06	10	08/01/25 09:49	07/31/25	
Cadmium	6020B	0.631	mg/Kg	0.043	0.007	10	08/01/25 09:49	07/31/25	
Chromium	6020B	57.4	mg/Kg	0.43	0.07	10	08/01/25 09:49	07/31/25	
Copper	6020B	34.6	mg/Kg	0.43	0.14	10	08/01/25 09:49	07/31/25	
Lead	6020B	2.41	mg/Kg	0.11	0.02	10	08/01/25 09:49	07/31/25	
Mercury	7471A	0.020 J	mg/Kg	0.028	0.003	1	08/04/25 11:22	08/01/25	
Nickel	6020B	41.1	mg/Kg	0.43	0.09	10	08/01/25 09:49	07/31/25	
Selenium	6020B	0.7 J	mg/Kg	1.1	0.1	10	08/01/25 09:49	07/31/25	
Silver	6020B	0.041 J	mg/Kg	0.043	0.008	10	08/01/25 09:49	07/31/25	
Zinc	6020B	84.7	mg/Kg	1.1	0.2	10	08/01/25 09:49	07/31/25	

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMEFSCS1
Lab Code: K2507459-014

Service Request: K2507459
Date Collected: 07/25/25 14:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12900	mg/Kg	5.8	1.6	10	08/01/25 09:36	07/31/25	
Arsenic	6020B	39.4	mg/Kg	0.73	0.08	10	08/01/25 09:36	07/31/25	
Cadmium	6020B	4.38	mg/Kg	0.058	0.009	10	08/01/25 09:36	07/31/25	
Chromium	6020B	12.5	mg/Kg	0.58	0.10	10	08/01/25 09:36	07/31/25	
Copper	6020B	35.7	mg/Kg	0.58	0.19	10	08/01/25 09:36	07/31/25	
Lead	6020B	4.53	mg/Kg	0.15	0.02	10	08/01/25 09:36	07/31/25	
Mercury	7471A	0.114	mg/Kg	0.030	0.003	1	08/04/25 11:24	08/01/25	
Nickel	6020B	54.5	mg/Kg	0.58	0.12	10	08/01/25 09:36	07/31/25	
Selenium	6020B	3.1	mg/Kg	1.5	0.2	10	08/01/25 09:36	07/31/25	
Silver	6020B	0.189	mg/Kg	0.058	0.010	10	08/01/25 09:36	07/31/25	
Zinc	6020B	373	mg/Kg	1.5	0.3	10	08/01/25 09:36	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25 10:00
Date Received: 07/29/25 09:40

Sample Name: 2025KGMLSHSP1S1
Lab Code: K2507459-015

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	15800	mg/Kg	5.0	1.4	10	08/01/25 09:39	07/31/25	
Arsenic	6020B	25.2	mg/Kg	0.63	0.07	10	08/01/25 09:39	07/31/25	
Cadmium	6020B	0.197	mg/Kg	0.050	0.008	10	08/01/25 09:39	07/31/25	
Chromium	6020B	35.2	mg/Kg	0.50	0.09	10	08/01/25 09:39	07/31/25	
Copper	6020B	57.3	mg/Kg	0.50	0.16	10	08/01/25 09:39	07/31/25	
Lead	6020B	5.84	mg/Kg	0.13	0.02	10	08/01/25 09:39	07/31/25	
Mercury	7471A	0.021 J	mg/Kg	0.026	0.003	1	08/04/25 11:25	08/01/25	
Nickel	6020B	30.0	mg/Kg	0.50	0.10	10	08/01/25 09:39	07/31/25	
Selenium	6020B	0.5 J	mg/Kg	1.3	0.1	10	08/01/25 09:39	07/31/25	
Silver	6020B	0.089	mg/Kg	0.050	0.009	10	08/01/25 09:39	07/31/25	
Zinc	6020B	102	mg/Kg	1.3	0.2	10	08/01/25 09:39	07/31/25	

ALS Group USA, Corp.
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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSHSP1S2
Lab Code: K2507459-016

Service Request: K2507459
Date Collected: 07/24/25 10:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	15800	mg/Kg	4.8	1.3	10	08/01/25 09:42	07/31/25	
Arsenic	6020B	23.7	mg/Kg	0.59	0.06	10	08/01/25 09:42	07/31/25	
Cadmium	6020B	0.218	mg/Kg	0.048	0.008	10	08/01/25 09:42	07/31/25	
Chromium	6020B	35.8	mg/Kg	0.48	0.08	10	08/01/25 09:42	07/31/25	
Copper	6020B	60.5	mg/Kg	0.48	0.15	10	08/01/25 09:42	07/31/25	
Lead	6020B	5.35	mg/Kg	0.12	0.02	10	08/01/25 09:42	07/31/25	
Mercury	7471A	0.018 J	mg/Kg	0.028	0.003	1	08/04/25 11:27	08/01/25	
Nickel	6020B	32.7	mg/Kg	0.48	0.10	10	08/01/25 09:42	07/31/25	
Selenium	6020B	1.3	mg/Kg	1.2	0.1	10	08/01/25 09:42	07/31/25	
Silver	6020B	0.109	mg/Kg	0.048	0.008	10	08/01/25 09:42	07/31/25	
Zinc	6020B	107	mg/Kg	1.2	0.2	10	08/01/25 09:42	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSHSP1S3
Lab Code: K2507459-017

Service Request: K2507459
Date Collected: 07/24/25 10:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	14900	mg/Kg	4.6	1.3	10	08/01/25 09:44	07/31/25	
Arsenic	6020B	20.5	mg/Kg	0.57	0.06	10	08/01/25 09:44	07/31/25	
Cadmium	6020B	0.171	mg/Kg	0.046	0.007	10	08/01/25 09:44	07/31/25	
Chromium	6020B	32.9	mg/Kg	0.46	0.08	10	08/01/25 09:44	07/31/25	
Copper	6020B	60.5	mg/Kg	0.46	0.15	10	08/01/25 09:44	07/31/25	
Lead	6020B	5.49	mg/Kg	0.11	0.02	10	08/01/25 09:44	07/31/25	
Mercury	7471A	0.015 J	mg/Kg	0.029	0.003	1	08/04/25 11:29	08/01/25	
Nickel	6020B	29.9	mg/Kg	0.46	0.09	10	08/01/25 09:44	07/31/25	
Selenium	6020B	0.8 J	mg/Kg	1.1	0.1	10	08/01/25 09:44	07/31/25	
Silver	6020B	0.070	mg/Kg	0.046	0.008	10	08/01/25 09:44	07/31/25	
Zinc	6020B	104	mg/Kg	1.1	0.2	10	08/01/25 09:44	07/31/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSHS1
Lab Code: K2507459-018

Service Request: K2507459
Date Collected: 07/24/25 11:30
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	15500	mg/Kg	4.5	1.2	10	08/01/25 09:47	07/31/25	
Arsenic	6020B	78.5	mg/Kg	0.56	0.06	10	08/01/25 09:47	07/31/25	
Cadmium	6020B	0.138	mg/Kg	0.045	0.007	10	08/01/25 09:47	07/31/25	
Chromium	6020B	31.2	mg/Kg	0.45	0.08	10	08/01/25 09:47	07/31/25	
Copper	6020B	58.2	mg/Kg	0.45	0.14	10	08/01/25 09:47	07/31/25	
Lead	6020B	5.52	mg/Kg	0.11	0.02	10	08/01/25 09:47	07/31/25	
Mercury	7471A	0.027	mg/Kg	0.026	0.003	1	08/04/25 11:30	08/01/25	
Nickel	6020B	35.5	mg/Kg	0.45	0.09	10	08/01/25 09:47	07/31/25	
Selenium	6020B	0.3 J	mg/Kg	1.1	0.1	10	08/01/25 09:47	07/31/25	
Silver	6020B	0.138	mg/Kg	0.045	0.008	10	08/01/25 09:47	07/31/25	
Zinc	6020B	100	mg/Kg	1.1	0.2	10	08/01/25 09:47	07/31/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSHS2
Lab Code: K2507459-019

Service Request: K2507459
Date Collected: 07/24/25 11:30
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	18600	mg/Kg	5.1	1.4	10	08/01/25 10:02	07/30/25	
Arsenic	6020B	51.2	mg/Kg	0.63	0.07	10	08/01/25 10:02	07/30/25	
Cadmium	6020B	0.139	mg/Kg	0.051	0.008	10	08/01/25 10:02	07/30/25	
Chromium	6020B	33.6	mg/Kg	0.51	0.09	10	08/01/25 10:02	07/30/25	
Copper	6020B	61.4	mg/Kg	0.51	0.17	10	08/01/25 10:02	07/30/25	
Lead	6020B	6.35	mg/Kg	0.13	0.02	10	08/01/25 10:02	07/30/25	
Mercury	7471A	0.025 J	mg/Kg	0.027	0.003	1	08/04/25 11:43	08/01/25	
Nickel	6020B	33.2	mg/Kg	0.51	0.10	10	08/01/25 10:02	07/30/25	
Selenium	6020B	0.6 J	mg/Kg	1.3	0.1	10	08/01/25 10:02	07/30/25	
Silver	6020B	0.153	mg/Kg	0.051	0.009	10	08/01/25 10:02	07/30/25	
Zinc	6020B	110	mg/Kg	1.3	0.2	10	08/01/25 10:02	07/30/25	

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Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMUSHS3
Lab Code: K2507459-020

Service Request: K2507459
Date Collected: 07/24/25 11:30
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	16100	mg/Kg	5.1	1.4	10	08/01/25 10:15	07/30/25	
Arsenic	6020B	51.3	mg/Kg	0.64	0.07	10	08/01/25 10:15	07/30/25	
Cadmium	6020B	0.129	mg/Kg	0.051	0.008	10	08/01/25 10:15	07/30/25	
Chromium	6020B	28.4	mg/Kg	0.51	0.09	10	08/01/25 10:15	07/30/25	
Copper	6020B	55.6	mg/Kg	0.51	0.17	10	08/01/25 10:15	07/30/25	
Lead	6020B	5.20	mg/Kg	0.13	0.02	10	08/01/25 10:15	07/30/25	
Mercury	7471A	0.020 J	mg/Kg	0.028	0.003	1	08/04/25 11:49	08/01/25	
Nickel	6020B	28.4	mg/Kg	0.51	0.10	10	08/01/25 10:15	07/30/25	
Selenium	6020B	0.6 J	mg/Kg	1.3	0.1	10	08/01/25 10:15	07/30/25	
Silver	6020B	0.112	mg/Kg	0.051	0.009	10	08/01/25 10:15	07/30/25	
Zinc	6020B	99.2	mg/Kg	1.3	0.2	10	08/01/25 10:15	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMEFSCS3
Lab Code: K2507459-021

Service Request: K2507459
Date Collected: 07/25/25 14:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	13000	mg/Kg	5.0	1.4	10	08/01/25 10:18	07/30/25	
Arsenic	6020B	50.4	mg/Kg	0.62	0.06	10	08/01/25 10:18	07/30/25	
Cadmium	6020B	4.29	mg/Kg	0.050	0.008	10	08/01/25 10:18	07/30/25	
Chromium	6020B	13.6	mg/Kg	0.50	0.08	10	08/01/25 10:18	07/30/25	
Copper	6020B	45.6	mg/Kg	0.50	0.16	10	08/01/25 10:18	07/30/25	
Lead	6020B	6.00	mg/Kg	0.12	0.02	10	08/01/25 10:18	07/30/25	
Mercury	7471A	0.065	mg/Kg	0.029	0.003	1	08/04/25 11:51	08/01/25	
Nickel	6020B	59.3	mg/Kg	0.50	0.10	10	08/01/25 10:18	07/30/25	
Selenium	6020B	4.0	mg/Kg	1.2	0.1	10	08/01/25 10:18	07/30/25	
Silver	6020B	0.133	mg/Kg	0.050	0.009	10	08/01/25 10:18	07/30/25	
Zinc	6020B	434	mg/Kg	1.2	0.2	10	08/01/25 10:18	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMWFSCS1
Lab Code: K2507459-022

Service Request: K2507459
Date Collected: 07/25/25 10:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12600	mg/Kg	5.1	1.4	10	08/01/25 10:20	07/30/25	
Arsenic	6020B	24.6	mg/Kg	0.64	0.07	10	08/01/25 10:20	07/30/25	
Cadmium	6020B	0.924	mg/Kg	0.051	0.008	10	08/01/25 10:20	07/30/25	
Chromium	6020B	20.5	mg/Kg	0.51	0.09	10	08/01/25 10:20	07/30/25	
Copper	6020B	60.4	mg/Kg	0.51	0.17	10	08/01/25 10:20	07/30/25	
Lead	6020B	10.2	mg/Kg	0.13	0.02	10	08/01/25 10:20	07/30/25	
Mercury	7471A	0.097	mg/Kg	0.032	0.003	1	08/04/25 11:53	08/01/25	
Nickel	6020B	45.6	mg/Kg	0.51	0.10	10	08/01/25 10:20	07/30/25	
Selenium	6020B	2.0	mg/Kg	1.3	0.1	10	08/01/25 10:20	07/30/25	
Silver	6020B	0.158	mg/Kg	0.051	0.009	10	08/01/25 10:20	07/30/25	
Zinc	6020B	191	mg/Kg	1.3	0.2	10	08/01/25 10:20	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMWFSCS2
Lab Code: K2507459-023

Service Request: K2507459
Date Collected: 07/25/25 10:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	13000	mg/Kg	5.5	1.5	10	08/01/25 10:28	07/30/25	
Arsenic	6020B	26.3	mg/Kg	0.69	0.07	10	08/01/25 10:28	07/30/25	
Cadmium	6020B	1.01	mg/Kg	0.055	0.009	10	08/01/25 10:28	07/30/25	
Chromium	6020B	21.1	mg/Kg	0.55	0.09	10	08/01/25 10:28	07/30/25	
Copper	6020B	61.6	mg/Kg	0.55	0.18	10	08/01/25 10:28	07/30/25	
Lead	6020B	9.55	mg/Kg	0.14	0.02	10	08/01/25 10:28	07/30/25	
Mercury	7471A	0.075	mg/Kg	0.029	0.003	1	08/04/25 11:54	08/01/25	
Nickel	6020B	46.0	mg/Kg	0.55	0.11	10	08/01/25 10:28	07/30/25	
Selenium	6020B	2.0	mg/Kg	1.4	0.2	10	08/01/25 10:28	07/30/25	
Silver	6020B	0.150	mg/Kg	0.055	0.010	10	08/01/25 10:28	07/30/25	
Zinc	6020B	203	mg/Kg	1.4	0.2	10	08/01/25 10:28	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMWFSCS3
Lab Code: K2507459-024

Service Request: K2507459
Date Collected: 07/25/25 10:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	11600	mg/Kg	5.2	1.4	10	08/01/25 10:31	07/30/25	
Arsenic	6020B	22.2	mg/Kg	0.65	0.07	10	08/01/25 10:31	07/30/25	
Cadmium	6020B	0.991	mg/Kg	0.052	0.008	10	08/01/25 10:31	07/30/25	
Chromium	6020B	19.1	mg/Kg	0.52	0.09	10	08/01/25 10:31	07/30/25	
Copper	6020B	64.7	mg/Kg	0.52	0.17	10	08/01/25 10:31	07/30/25	
Lead	6020B	8.83	mg/Kg	0.13	0.02	10	08/01/25 10:31	07/30/25	
Mercury	7471A	0.058	mg/Kg	0.028	0.003	1	08/04/25 11:56	08/01/25	
Nickel	6020B	41.2	mg/Kg	0.52	0.10	10	08/01/25 10:31	07/30/25	
Selenium	6020B	2.2	mg/Kg	1.3	0.1	10	08/01/25 10:31	07/30/25	
Silver	6020B	0.199	mg/Kg	0.052	0.009	10	08/01/25 10:31	07/30/25	
Zinc	6020B	192	mg/Kg	1.3	0.2	10	08/01/25 10:31	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSCS1
Lab Code: K2507459-025

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	12000	mg/Kg	5.4	1.5	10	08/01/25 10:34	07/30/25	
Arsenic	6020B	14.5	mg/Kg	0.68	0.07	10	08/01/25 10:34	07/30/25	
Cadmium	6020B	0.540	mg/Kg	0.054	0.009	10	08/01/25 10:34	07/30/25	
Chromium	6020B	20.3	mg/Kg	0.54	0.09	10	08/01/25 10:34	07/30/25	
Copper	6020B	55.4	mg/Kg	0.54	0.18	10	08/01/25 10:34	07/30/25	
Lead	6020B	7.06	mg/Kg	0.14	0.02	10	08/01/25 10:34	07/30/25	
Mercury	7471A	0.052	mg/Kg	0.028	0.003	1	08/04/25 12:01	08/01/25	
Nickel	6020B	33.7	mg/Kg	0.54	0.11	10	08/01/25 10:34	07/30/25	
Selenium	6020B	0.9 J	mg/Kg	1.4	0.1	10	08/01/25 10:34	07/30/25	
Silver	6020B	0.080	mg/Kg	0.054	0.010	10	08/01/25 10:34	07/30/25	
Zinc	6020B	137	mg/Kg	1.4	0.2	10	08/01/25 10:34	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSCS2
Lab Code: K2507459-026

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	11300	mg/Kg	4.6	1.3	10	08/01/25 10:36	07/30/25	
Arsenic	6020B	13.9	mg/Kg	0.57	0.06	10	08/01/25 10:36	07/30/25	
Cadmium	6020B	0.370	mg/Kg	0.046	0.007	10	08/01/25 10:36	07/30/25	
Chromium	6020B	19.6	mg/Kg	0.46	0.08	10	08/01/25 10:36	07/30/25	
Copper	6020B	51.1	mg/Kg	0.46	0.15	10	08/01/25 10:36	07/30/25	
Lead	6020B	6.63	mg/Kg	0.11	0.02	10	08/01/25 10:36	07/30/25	
Mercury	7471A	0.049	mg/Kg	0.024	0.002	1	08/04/25 12:02	08/01/25	
Nickel	6020B	36.0	mg/Kg	0.46	0.09	10	08/01/25 10:36	07/30/25	
Selenium	6020B	1.0 J	mg/Kg	1.1	0.1	10	08/01/25 10:36	07/30/25	
Silver	6020B	0.121	mg/Kg	0.046	0.008	10	08/01/25 10:36	07/30/25	
Zinc	6020B	122	mg/Kg	1.1	0.2	10	08/01/25 10:36	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSCS3
Lab Code: K2507459-027

Service Request: K2507459
Date Collected: 07/25/25 12:00
Date Received: 07/29/25 09:40

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	10700	mg/Kg	5.3	1.5	10	08/01/25 10:39	07/30/25	
Arsenic	6020B	14.3	mg/Kg	0.66	0.07	10	08/01/25 10:39	07/30/25	
Cadmium	6020B	0.626	mg/Kg	0.053	0.009	10	08/01/25 10:39	07/30/25	
Chromium	6020B	18.0	mg/Kg	0.53	0.09	10	08/01/25 10:39	07/30/25	
Copper	6020B	42.6	mg/Kg	0.53	0.17	10	08/01/25 10:39	07/30/25	
Lead	6020B	6.12	mg/Kg	0.13	0.02	10	08/01/25 10:39	07/30/25	
Mercury	7471A	0.069	mg/Kg	0.029	0.003	1	08/04/25 12:04	08/01/25	
Nickel	6020B	33.4	mg/Kg	0.53	0.11	10	08/01/25 10:39	07/30/25	
Selenium	6020B	1.5	mg/Kg	1.3	0.1	10	08/01/25 10:39	07/30/25	
Silver	6020B	0.098	mg/Kg	0.053	0.009	10	08/01/25 10:39	07/30/25	
Zinc	6020B	135	mg/Kg	1.3	0.2	10	08/01/25 10:39	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2513498-03

Service Request: K2507459
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	1.5 J	mg/Kg	4.0	1.1	10	08/01/25 08:35	07/31/25	
Arsenic	6020B	ND U	mg/Kg	0.50	0.05	10	08/01/25 08:35	07/31/25	
Cadmium	6020B	ND U	mg/Kg	0.040	0.007	10	08/01/25 08:35	07/31/25	
Chromium	6020B	0.08 J	mg/Kg	0.40	0.07	10	08/01/25 08:35	07/31/25	
Copper	6020B	ND U	mg/Kg	0.40	0.13	10	08/01/25 08:35	07/31/25	
Lead	6020B	0.03 J	mg/Kg	0.10	0.02	10	08/01/25 08:35	07/31/25	
Nickel	6020B	ND U	mg/Kg	0.40	0.08	10	08/01/25 08:35	07/31/25	
Selenium	6020B	ND U	mg/Kg	1.0	0.1	10	08/01/25 08:35	07/31/25	
Silver	6020B	ND U	mg/Kg	0.040	0.007	10	08/01/25 08:35	07/31/25	
Zinc	6020B	ND U	mg/Kg	1.0	0.2	10	08/01/25 08:35	07/31/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2513499-03

Service Request: K2507459
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum	6020B	1.4 J	mg/Kg	4.0	1.1	10	08/01/25 09:57	07/30/25	
Arsenic	6020B	ND U	mg/Kg	0.50	0.05	10	08/01/25 09:57	07/30/25	
Cadmium	6020B	ND U	mg/Kg	0.040	0.007	10	08/01/25 09:57	07/30/25	
Chromium	6020B	ND U	mg/Kg	0.40	0.07	10	08/01/25 09:57	07/30/25	
Copper	6020B	ND U	mg/Kg	0.40	0.13	10	08/01/25 09:57	07/30/25	
Lead	6020B	ND U	mg/Kg	0.10	0.02	10	08/01/25 09:57	07/30/25	
Nickel	6020B	ND U	mg/Kg	0.40	0.08	10	08/01/25 09:57	07/30/25	
Selenium	6020B	ND U	mg/Kg	1.0	0.1	10	08/01/25 09:57	07/30/25	
Silver	6020B	ND U	mg/Kg	0.040	0.007	10	08/01/25 09:57	07/30/25	
Zinc	6020B	ND U	mg/Kg	1.0	0.2	10	08/01/25 09:57	07/30/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2513496-03

Service Request: K2507459
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Mercury	7471A	ND U	mg/Kg	0.02	0.002	1	08/04/25 10:48	08/01/25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2513497-03

Service Request: K2507459
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Mercury	7471A	ND U	mg/Kg	0.02	0.002	1	08/04/25 11:32	08/01/25	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/01/25

Replicate Sample Summary
Total Metals

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001

Units: mg/Kg
Basis: Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ2513498-01 Result			
Aluminum	6020B	4.6	1.3	8330	8610	8470	3	20
Arsenic	6020B	0.57	0.06	1.86	2.03	1.95	9	20
Cadmium	6020B	0.046	0.007	0.088	0.082	0.085	7	20
Chromium	6020B	0.46	0.08	19.8	20.8	20.3	5	20
Copper	6020B	0.46	0.15	59.3	61.8	60.6	4	20
Lead	6020B	0.11	0.02	1.70	2.93	2.32	53 *	20
Nickel	6020B	0.46	0.09	12.7	12.9	12.8	1	20
Selenium	6020B	1.1	0.1	0.5 J	0.2 J	0.4	80 #	20
Silver	6020B	0.046	0.008	0.056	0.034 J	0.045	46 #	20
Zinc	6020B	1.1	0.2	38.4	44.3	41.4	14	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/01/25

Replicate Sample Summary
Total Metals

Sample Name: 2025KGMUSHS2
Lab Code: K2507459-019

Units: mg/Kg
Basis: Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ2513499-01 Result			
Aluminum	6020B	4.8	1.3	18600	16600	17600	11	20
Arsenic	6020B	0.60	0.06	51.2	52.8	52.0	3	20
Cadmium	6020B	0.048	0.008	0.139	0.149	0.144	6	20
Chromium	6020B	0.48	0.08	33.6	32.4	33.0	4	20
Copper	6020B	0.48	0.16	61.4	63.9	62.7	4	20
Lead	6020B	0.12	0.02	6.35	11.4	8.88	57 *	20
Nickel	6020B	0.48	0.10	33.2	34.3	33.8	3	20
Selenium	6020B	1.2	0.1	0.6 J	0.4 J	0.5	48 #	20
Silver	6020B	0.048	0.009	0.153	0.128	0.141	18	20
Zinc	6020B	1.2	0.2	110	115	113	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/04/25

Replicate Sample Summary

Total Metals

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001

Units: mg/Kg
Basis: Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ2513496-01 Result			
Mercury	7471A	0.024	0.002	0.009 J	0.025	0.017	88 #	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/04/25

Replicate Sample Summary
Total Metals

Sample Name: 2025KGMUSHS2
Lab Code: K2507459-019

Units: mg/Kg
Basis: Dry

Table with 9 columns: Analyte Name, Analysis Method, MRL, MDL, Sample Result, Duplicate Sample KQ2513497-01 Result, Average, RPD, RPD Limit. Row 1: Mercury, 7471A, 0.029, 0.003, 0.025 J, 0.020 J, 0.023, 21 #, 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/1/25
Date Extracted: 07/31/25

Matrix Spike Summary
Total Metals

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001
Analysis Method: 6020B
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2513498-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Aluminum	8330	8990	464	143 #	75-125
Arsenic	1.86	121	116	102	75-125
Cadmium	0.088	11.9	11.6	102	75-125
Chromium	19.8	71.4	46.4	111	75-125
Copper	59.3	129	58.1	120	75-125
Lead	1.70	121	116	103	75-125
Nickel	12.7	132	116	103	75-125
Selenium	0.5 J	121	116	104	75-125
Silver	0.056	12.0	11.6	103	75-125
Zinc	38.4	157	116	102	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/1/25
Date Extracted: 07/30/25

Matrix Spike Summary
Total Metals

Sample Name: 2025KGMUSHS2
Lab Code: K2507459-019
Analysis Method: 6020B
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2513499-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Aluminum	18600	17100	501	-310 #	75-125
Arsenic	51.2	171	125	96	75-125
Cadmium	0.139	12.6	12.5	99	75-125
Chromium	33.6	82.3	50.1	97	75-125
Copper	61.4	125	62.6	101	75-125
Lead	6.35	134	125	102	75-125
Nickel	33.2	156	125	98	75-125
Selenium	0.6 J	124	125	99	75-125
Silver	0.153	12.7	12.5	100	75-125
Zinc	110	236	125	100	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/4/25
Date Extracted: 08/1/25

Matrix Spike Summary
Total Metals

Sample Name: 2025KGMUJCSP1S1
Lab Code: K2507459-001
Analysis Method: 7471A
Prep Method: Method

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2513496-02

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Mercury	0.009 J	0.636	0.637	98	60-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Collected: 07/24/25
Date Received: 07/29/25
Date Analyzed: 08/4/25
Date Extracted: 08/1/25

Matrix Spike Summary
Total Metals

Sample Name: 2025KGMUSHS2
Lab Code: K2507459-019
Analysis Method: 7471A
Prep Method: Method

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2513497-02

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Mercury	0.025 J	0.749	0.750	96	60-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/01/25

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2513498-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Aluminum	6020B	376	400	94	80-120
Arsenic	6020B	101	100	101	80-120
Cadmium	6020B	10.3	10.0	103	80-120
Chromium	6020B	41.2	40.0	103	80-120
Copper	6020B	51.0	50.0	102	80-120
Lead	6020B	103	100	103	80-120
Nickel	6020B	102	100	102	80-120
Selenium	6020B	104	100	104	80-120
Silver	6020B	10.5	10.0	105	80-120
Zinc	6020B	102	100	102	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/01/25

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2513499-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Aluminum	6020B	477	400	119	80-120
Arsenic	6020B	103	100	103	80-120
Cadmium	6020B	9.91	10.0	99	80-120
Chromium	6020B	41.7	40.0	104	80-120
Copper	6020B	51.4	50.0	103	80-120
Lead	6020B	104	100	104	80-120
Nickel	6020B	102	100	102	80-120
Selenium	6020B	105	100	105	80-120
Silver	6020B	10.1	10.0	101	80-120
Zinc	6020B	101	100	101	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/04/25

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2513496-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury	7471A	0.491	0.500	98	83-117

ALS Group USA, Corp.
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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459
Date Analyzed: 08/04/25

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2513497-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury	7471A	0.492	0.500	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459

Metals

Prep Method: EPA 3050B
Analytical Method: 6020B

Extraction Lot: 461641
Extraction Date: 07/31/25 10:25

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
2025KGMUJCSP1S1	K2507459-001	7/24/25	7/29/25	1.206 g	100 mL	
2025KGMUJCSP1S2	K2507459-002	7/24/25	7/29/25	1.141 g	100 mL	
2025KGMUJCSP1S3	K2507459-003	7/24/25	7/29/25	1.252 g	100 mL	
2025KGMLJCS1	K2507459-004	7/25/25	7/29/25	1.297 g	100 mL	
2025KGMLJCS2	K2507459-005	7/25/25	7/29/25	1.275 g	100 mL	
2025KGMLJCS3	K2507459-006	7/25/25	7/29/25	1.406 g	100 mL	
2025KGMEFSCS2	K2507459-007	7/25/25	7/29/25	1.213 g	100 mL	
2025KGMUSCSP1S1	K2507459-008	7/24/25	7/29/25	1.201 g	100 mL	
2025KGMUSCSP1S2	K2507459-009	7/24/25	7/29/25	1.125 g	100 mL	
2025KGMUSCSP1S3	K2507459-010	7/24/25	7/29/25	1.312 g	100 mL	
2025KGMUSCSP2S1	K2507459-011	7/24/25	7/29/25	1.133 g	100 mL	
2025KGMUSCSP2S2	K2507459-012	7/24/25	7/29/25	1.178 g	100 mL	
2025KGMUSCSP2S3	K2507459-013	7/24/25	7/29/25	1.338 g	100 mL	
2025KGMEFSCS1	K2507459-014	7/25/25	7/29/25	1.141 g	100 mL	
2025KGMLSHSP1S1	K2507459-015	7/24/25	7/29/25	1.185 g	100 mL	
2025KGMLSHSP1S2	K2507459-016	7/24/25	7/29/25	1.336 g	100 mL	
2025KGMLSHSP1S3	K2507459-017	7/24/25	7/29/25	1.346 g	100 mL	
2025KGMUSHS1	K2507459-018	7/24/25	7/29/25	1.251 g	100 mL	
Duplicate	KQ2513498-01DUP	7/24/25	7/29/25	1.231 g	100 mL	
Matrix Spike	KQ2513498-02MS	7/24/25	7/29/25	1.212 g	100 mL	
Method Blank	KQ2513498-03MB	NA	NA	1.0000 g	100 mL	
Lab Control Sample	KQ2513498-04LCS	NA	NA	1.0000 g	100 mL	

ALS Group USA, Corp.
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Prep Summary Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459

Metals

Prep Method: EPA 3050B
Analytical Method: 6020B

Extraction Lot: 461642
Extraction Date: 07/30/25 10:28

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
2025KGMUSHS2	K2507459-019	7/24/25	7/29/25	1.221 g	100 mL	
2025KGMUSHS3	K2507459-020	7/24/25	7/29/25	1.220 g	100 mL	
2025KGMEFSCS3	K2507459-021	7/25/25	7/29/25	1.342 g	100 mL	
2025KGMWFSCS1	K2507459-022	7/25/25	7/29/25	1.340 g	100 mL	
2025KGMWFSCS2	K2507459-023	7/25/25	7/29/25	1.153 g	100 mL	
2025KGMWFSCS3	K2507459-024	7/25/25	7/29/25	1.194 g	100 mL	
2025KGMLSCS1	K2507459-025	7/25/25	7/29/25	1.113 g	100 mL	
2025KGMLSCS2	K2507459-026	7/25/25	7/29/25	1.252 g	100 mL	
2025KGMLSCS3	K2507459-027	7/25/25	7/29/25	1.128 g	100 mL	
Duplicate	KQ2513499-01DUP	7/24/25	7/29/25	1.294 g	100 mL	
Matrix Spike	KQ2513499-02MS	7/24/25	7/29/25	1.237 g	100 mL	
Method Blank	KQ2513499-03MB	NA	NA	1.0000 g	100 mL	
Lab Control Sample	KQ2513499-04LCS	NA	NA	1.0000 g	100 mL	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459

Metals

Prep Method: Method
Analytical Method: 7471A

Extraction Lot: 461639
Extraction Date: 08/01/25 14:31

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
2025KGMUJCSP1S1	K2507459-001	7/24/25	7/29/25	0.576 g	50 mL	
2025KGMUJCSP1S2	K2507459-002	7/24/25	7/29/25	0.536 g	50 mL	
2025KGMUJCSP1S3	K2507459-003	7/24/25	7/29/25	0.550 g	50 mL	
2025KGMLJCS1	K2507459-004	7/25/25	7/29/25	0.521 g	50 mL	
2025KGMLJCS2	K2507459-005	7/25/25	7/29/25	0.534 g	50 mL	
2025KGMLJCS3	K2507459-006	7/25/25	7/29/25	0.515 g	50 mL	
2025KGMEFSCS2	K2507459-007	7/25/25	7/29/25	0.577 g	50 mL	
2025KGMUSCSP1S1	K2507459-008	7/24/25	7/29/25	0.565 g	50 mL	
2025KGMUSCSP1S2	K2507459-009	7/24/25	7/29/25	0.503 g	50 mL	
2025KGMUSCSP1S3	K2507459-010	7/24/25	7/29/25	0.520 g	50 mL	
2025KGMUSCSP2S1	K2507459-011	7/24/25	7/29/25	0.569 g	50 mL	
2025KGMUSCSP2S2	K2507459-012	7/24/25	7/29/25	0.554 g	50 mL	
2025KGMUSCSP2S3	K2507459-013	7/24/25	7/29/25	0.517 g	50 mL	
2025KGMEFSCS1	K2507459-014	7/25/25	7/29/25	0.546 g	50 mL	
2025KGMLSHSP1S1	K2507459-015	7/24/25	7/29/25	0.581 g	50 mL	
2025KGMLSHSP1S2	K2507459-016	7/24/25	7/29/25	0.571 g	50 mL	
2025KGMLSHSP1S3	K2507459-017	7/24/25	7/29/25	0.530 g	50 mL	
2025KGMUSHS1	K2507459-018	7/24/25	7/29/25	0.533 g	50 mL	
Duplicate	KQ2513496-01DUP	7/24/25	7/29/25	0.578 g	50 mL	
Matrix Spike	KQ2513496-02MS	7/24/25	7/29/25	0.552 g	50 mL	
Method Blank	KQ2513496-03MB	NA	NA	0.5 g	50 mL	
Lab Control Sample	KQ2513496-04LCS	NA	NA	0.5 g	50 mL	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Service Request: K2507459

Metals

Prep Method: Method
Analytical Method: 7471A

Extraction Lot: 461640
Extraction Date: 08/01/25 14:31

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
2025KGMUSHS2	K2507459-019	7/24/25	7/29/25	0.568 g	50 mL	
2025KGMUSHS3	K2507459-020	7/24/25	7/29/25	0.549 g	50 mL	
2025KGMEFSCS3	K2507459-021	7/25/25	7/29/25	0.569 g	50 mL	
2025KGMWFSCS1	K2507459-022	7/25/25	7/29/25	0.533 g	50 mL	
2025KGMWFSCS2	K2507459-023	7/25/25	7/29/25	0.553 g	50 mL	
2025KGMWFSCS3	K2507459-024	7/25/25	7/29/25	0.560 g	50 mL	
2025KGMLSCS1	K2507459-025	7/25/25	7/29/25	0.534 g	50 mL	
2025KGMLSCS2	K2507459-026	7/25/25	7/29/25	0.597 g	50 mL	
2025KGMLSCS3	K2507459-027	7/25/25	7/29/25	0.510 g	50 mL	
Duplicate	KQ2513497-01DUP	7/24/25	7/29/25	0.528 g	50 mL	
Matrix Spike	KQ2513497-02MS	7/24/25	7/29/25	0.516 g	50 mL	
Method Blank	KQ2513497-03MB	NA	NA	0.5 g	50 mL	
Lab Control Sample	KQ2513497-04LCS	NA	NA	0.5 g	50 mL	

ALS Group USA, Corp.
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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
ICV 08/01/25 07:32	Aluminum	6020B	888259	100	100	100	90-110
	Arsenic	6020B	888259	24.7	25.0	99	90-110
	Cadmium	6020B	888259	12.0	12.5	96	90-110
	Chromium	6020B	888259	9.70	10.0	97	90-110
	Copper	6020B	888259	11.8	12.5	95	90-110
	Lead	6020B	888259	23.2	25.0	93	90-110
	Nickel	6020B	888259	23.5	25.0	94	90-110
	Selenium	6020B	888259	24.2	25.0	97	90-110
	Silver	6020B	888259	12.1	12.5	97	90-110
	Zinc	6020B	888259	24.0	25.0	96	90-110
CCV 08/01/25 07:34	Aluminum	6020B	888259	251	250	100	90-110
	Arsenic	6020B	888259	25.1	25.0	100	90-110
	Cadmium	6020B	888259	24.7	25.0	99	90-110
	Chromium	6020B	888259	25.1	25.0	100	90-110
	Copper	6020B	888259	25.4	25.0	102	90-110
	Lead	6020B	888259	24.5	25.0	98	90-110
	Nickel	6020B	888259	25.0	25.0	100	90-110
	Selenium	6020B	888259	25.6	25.0	103	90-110
	Silver	6020B	888259	12.4	12.5	100	90-110
	Zinc	6020B	888259	25.5	25.0	102	90-110
CCV 08/01/25 09:00	Aluminum	6020B	888259	229	250	92	90-110
	Arsenic	6020B	888259	24.8	25.0	99	90-110
	Cadmium	6020B	888259	24.7	25.0	99	90-110
	Chromium	6020B	888259	25.3	25.0	101	90-110
	Copper	6020B	888259	25.6	25.0	103	90-110
	Lead	6020B	888259	25.2	25.0	101	90-110
	Nickel	6020B	888259	25.0	25.0	100	90-110
	Selenium	6020B	888259	25.2	25.0	101	90-110
	Silver	6020B	888259	12.4	12.5	99	90-110
	Zinc	6020B	888259	25.6	25.0	102	90-110
CCV 08/01/25 09:29	Aluminum	6020B	888259	233	250	93	90-110
	Arsenic	6020B	888259	24.7	25.0	99	90-110
	Cadmium	6020B	888259	24.8	25.0	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 08/01/25 09:29	Chromium	6020B	888259	25.0	25.0	100	90-110
	Copper	6020B	888259	25.4	25.0	101	90-110
	Lead	6020B	888259	24.6	25.0	98	90-110
	Nickel	6020B	888259	25.1	25.0	100	90-110
	Selenium	6020B	888259	25.2	25.0	101	90-110
	Silver	6020B	888259	12.5	12.5	100	90-110
	Zinc	6020B	888259	25.6	25.0	102	90-110
CCV 08/01/25 09:52	Aluminum	6020B	888259	231	250	92	90-110
	Arsenic	6020B	888259	24.9	25.0	99	90-110
	Cadmium	6020B	888259	24.6	25.0	98	90-110
	Chromium	6020B	888259	25.1	25.0	101	90-110
	Copper	6020B	888259	25.3	25.0	101	90-110
	Lead	6020B	888259	24.4	25.0	97	90-110
	Nickel	6020B	888259	24.8	25.0	99	90-110
	Selenium	6020B	888259	25.2	25.0	101	90-110
	Silver	6020B	888259	12.4	12.5	99	90-110
	Zinc	6020B	888259	25.7	25.0	103	90-110
CCV 08/01/25 10:23	Aluminum	6020B	888259	236	250	94	90-110
	Arsenic	6020B	888259	24.8	25.0	99	90-110
	Cadmium	6020B	888259	24.7	25.0	99	90-110
	Chromium	6020B	888259	25.1	25.0	100	90-110
	Copper	6020B	888259	25.4	25.0	102	90-110
	Lead	6020B	888259	24.6	25.0	98	90-110
	Nickel	6020B	888259	25.1	25.0	100	90-110
	Selenium	6020B	888259	25.2	25.0	101	90-110
	Silver	6020B	888259	12.5	12.5	100	90-110
	Zinc	6020B	888259	25.5	25.0	102	90-110
CCV 08/01/25 10:42	Aluminum	6020B	888259	233	250	93	90-110
	Arsenic	6020B	888259	25.0	25.0	100	90-110
	Cadmium	6020B	888259	24.4	25.0	98	90-110
	Chromium	6020B	888259	25.1	25.0	100	90-110
	Copper	6020B	888259	25.4	25.0	102	90-110
	Lead	6020B	888259	24.6	25.0	99	90-110

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV	08/01/25 10:42						
	Nickel	6020B	888259	25.3	25.0	101	90-110
	Selenium	6020B	888259	24.9	25.0	100	90-110
	Silver	6020B	888259	12.4	12.5	99	90-110
	Zinc	6020B	888259	25.4	25.0	102	90-110
ICV	08/04/25 10:01						
	Mercury	7471A	888470	4.90	5.00	98	90-110
CCV	08/04/25 10:06						
	Mercury	7471A	888470	4.96	5.00	99	90-110
CCV	08/04/25 10:33						
	Mercury	7471A	888470	4.95	5.00	99	90-110
CCV	08/04/25 10:54						
	Mercury	7471A	888470	4.90	5.00	98	90-110
CCV	08/04/25 11:14						
	Mercury	7471A	888470	4.89	5.00	98	90-110
CCV	08/04/25 11:33						
	Mercury	7471A	888470	4.89	5.00	98	90-110
CCV	08/04/25 11:58						
	Mercury	7471A	888470	4.88	5.00	98	90-110
CCV	08/04/25 12:06						
	Mercury	7471A	888470	4.88	5.00	98	90-110

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID

Analyte	Method	Analysis Batch:	Result	C
ICB 08/01/25 07:37				
Aluminum	6020B	888259	1.1	U
Arsenic	6020B	888259	0.05	U
Cadmium	6020B	888259	0.007	U
Chromium	6020B	888259	0.07	U
Copper	6020B	888259	0.13	U
Lead	6020B	888259	0.02	U
Nickel	6020B	888259	0.08	U
Selenium	6020B	888259	0.1	U
Silver	6020B	888259	0.007	U
Zinc	6020B	888259	0.2	U
CCB 08/01/25 07:40				
Aluminum	6020B	888259	1.1	U
Arsenic	6020B	888259	0.05	U
Cadmium	6020B	888259	0.007	U
Chromium	6020B	888259	0.07	U
Copper	6020B	888259	0.13	U
Lead	6020B	888259	0.02	U
Nickel	6020B	888259	0.08	U
Selenium	6020B	888259	0.1	U
Silver	6020B	888259	0.007	U
Zinc	6020B	888259	0.2	U
CCB 08/01/25 09:03				
Aluminum	6020B	888259	1.1	U
Arsenic	6020B	888259	0.05	U
Cadmium	6020B	888259	0.007	U
Chromium	6020B	888259	0.07	U
Copper	6020B	888259	0.13	U
Lead	6020B	888259	0.02	U
Nickel	6020B	888259	0.08	U
Selenium	6020B	888259	0.1	U
Silver	6020B	888259	0.007	U
Zinc	6020B	888259	0.2	U
CCB 08/01/25 09:31				
Aluminum	6020B	888259	1.1	U
Arsenic	6020B	888259	0.05	U
Cadmium	6020B	888259	0.007	U

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
CCB 08/01/25 09:31	Chromium	6020B	888259	0.07	U
	Copper	6020B	888259	0.13	U
	Lead	6020B	888259	0.02	U
	Nickel	6020B	888259	0.08	U
	Selenium	6020B	888259	0.1	U
	Silver	6020B	888259	0.007	U
	Zinc	6020B	888259	0.2	U
CCB 08/01/25 09:55	Aluminum	6020B	888259	1.1	U
	Arsenic	6020B	888259	0.05	U
	Cadmium	6020B	888259	0.007	U
	Chromium	6020B	888259	0.07	U
	Copper	6020B	888259	0.13	U
	Lead	6020B	888259	0.02	U
	Nickel	6020B	888259	0.08	U
	Selenium	6020B	888259	0.1	U
	Silver	6020B	888259	0.007	U
	Zinc	6020B	888259	0.2	U
CCB 08/01/25 10:26	Aluminum	6020B	888259	1.1	U
	Arsenic	6020B	888259	0.05	U
	Cadmium	6020B	888259	0.007	U
	Chromium	6020B	888259	0.07	U
	Copper	6020B	888259	0.13	U
	Lead	6020B	888259	0.02	U
	Nickel	6020B	888259	0.08	U
	Selenium	6020B	888259	0.1	U
	Silver	6020B	888259	0.007	U
	Zinc	6020B	888259	0.2	U
CCB 08/01/25 10:44	Aluminum	6020B	888259	1.1	U
	Arsenic	6020B	888259	0.05	U
	Cadmium	6020B	888259	0.007	U
	Chromium	6020B	888259	0.07	U
	Copper	6020B	888259	0.13	U
	Lead	6020B	888259	0.02	U

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
CCB	08/01/25 10:44				
	Nickel	6020B	888259	0.08	U
	Selenium	6020B	888259	0.1	U
	Silver	6020B	888259	0.007	U
	Zinc	6020B	888259	0.2	U
ICB	08/04/25 10:03				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 10:07				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 10:35				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 10:56				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 11:16				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 11:40				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 11:59				
	Mercury	7471A	888470	0.02	U
CCB	08/04/25 12:07				
	Mercury	7471A	888470	0.02	U

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLICVS								
	Aluminum	6020B	888259	3.9	4.0	98	80-120	08/01/25 07:50
	Arsenic	6020B	888259	0.48	0.5	96	80-120	08/01/25 07:50
	Cadmium	6020B	888259	0.038	0.04	95	80-120	08/01/25 07:50
	Chromium	6020B	888259	0.40	0.4	100	80-120	08/01/25 07:50
	Copper	6020B	888259	0.41	0.4	102	80-120	08/01/25 07:50
	Lead	6020B	888259	0.090	0.1	90	80-120	08/01/25 07:50
	Nickel	6020B	888259	0.35	0.4	88	80-120	08/01/25 07:50
	Selenium	6020B	888259	0.94	1.0	94	80-120	08/01/25 07:50
	Silver	6020B	888259	0.037	0.04	92	80-120	08/01/25 07:50
	Zinc	6020B	888259	1.0	1.0	101	80-120	08/01/25 07:50
LLICV								
	Mercury	7471A	888470	0.19	0.2	95	70-130	08/04/25 10:04

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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSA

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Aluminum	6020B	888259	19400	-	-	-	08/01/25 07:54
Arsenic	6020B	888259	0.08	-	-	-	08/01/25 07:54
Cadmium	6020B	888259	0.413	-	-	-	08/01/25 07:54
Chromium	6020B	888259	0.23	-	-	-	08/01/25 07:54
Copper	6020B	888259	0.56	-	-	-	08/01/25 07:54
Lead	6020B	888259	0.23	-	-	-	08/01/25 07:54
Nickel	6020B	888259	0.55	-	-	-	08/01/25 07:54
Selenium	6020B	888259	0.02	-	-	-	08/01/25 07:54
Silver	6020B	888259	0.010	-	-	-	08/01/25 07:54
Zinc	6020B	888259	0.7	-	-	-	08/01/25 07:54

ALS Group USA, Corp.
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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSAB

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Aluminum	6020B	888259	22500	-	-	-	08/01/25 07:56
Arsenic	6020B	888259	25.5	25.0	102	80-120	08/01/25 07:56
Cadmium	6020B	888259	25.4	25.0	102	80-120	08/01/25 07:56
Chromium	6020B	888259	50.3	50.0	101	80-120	08/01/25 07:56
Copper	6020B	888259	48.6	50.0	97	80-120	08/01/25 07:56
Lead	6020B	888259	0.23	-	-	-	08/01/25 07:56
Nickel	6020B	888259	48.1	50.0	96	80-120	08/01/25 07:56
Selenium	6020B	888259	24.4	25.0	98	80-120	08/01/25 07:56
Silver	6020B	888259	12.8	12.5	102	80-120	08/01/25 07:56
Zinc	6020B	888259	24.4	25.0	98	80-120	08/01/25 07:56

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

POST SPIKE SAMPLE RECOVERY

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Initial Sample Result	Post Spike Result	True Value	% Rec	% Rec. Limits	Analysis Date
K2507459-001A									
	Aluminum	6020B	888259	7140	7100	50	-80 #	75-125	08/01/25 08:48
	Arsenic	6020B	888259	1.6	53.2	50.0	103	75-125	08/01/25 08:48
	Cadmium	6020B	888259	0.08	52.3	50.0	105	75-125	08/01/25 08:48
	Chromium	6020B	888259	17.0	70.1	50.0	106	75-125	08/01/25 08:48
	Copper	6020B	888259	50.8	106	50.0	109	75-125	08/01/25 08:48
	Lead	6020B	888259	1.5	54.2	50.0	106	75-125	08/01/25 08:48
	Nickel	6020B	888259	10.9	63.2	50.0	105	75-125	08/01/25 08:48
	Selenium	6020B	888259	0.4 J	53	50	106	75-125	08/01/25 08:48
	Silver	6020B	888259	0.05	10.9	10.0	108	75-125	08/01/25 08:48
	Zinc	6020B	888259	33	86	50	106	75-125	08/01/25 08:48
K2507459-019A									
	Aluminum	6020B	888259	14700	14500	50	-374 #	75-125	08/01/25 10:10
	Arsenic	6020B	888259	40.3	95.0	50.0	109	75-125	08/01/25 10:10
	Cadmium	6020B	888259	0.11	52.0	50.0	104	75-125	08/01/25 10:10
	Chromium	6020B	888259	26.5	82.0	50.0	111	75-125	08/01/25 10:10
	Copper	6020B	888259	48.4	104	50.0	111	75-125	08/01/25 10:10
	Lead	6020B	888259	5.0	58.3	50.0	107	75-125	08/01/25 10:10
	Nickel	6020B	888259	26.1	81.0	50.0	110	75-125	08/01/25 10:10
	Selenium	6020B	888259	0.5 J	55	50	108	75-125	08/01/25 10:10
	Silver	6020B	888259	0.12	10.9	10.0	107	75-125	08/01/25 10:10
	Zinc	6020B	888259	87	143	50	112	75-125	08/01/25 10:10
K2507459-001A									
	Mercury	7471A	888470	0.08 J	5.03	5.00	99	80-120	08/04/25 10:59
K2507459-019A									
	Mercury	7471A	888470	0.18 J	5.10	5.00	98	80-120	08/04/25 11:48

Results flagged with a pound (#) indicate the control criteria is not applicable.

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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring

Service Request: K2507459

ICP SERIAL DILUTIONS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Initial Sample Result	Serial Dilution Result	% Diff	% Diff. Limit	Analysis Date
K2507459-001SDL								
	Aluminum	6020B	888259	71400	69400	3	10	08/01/25 08:45
	Arsenic	6020B	888259	16	17 J	7	10	08/01/25 08:45
	Cadmium	6020B	888259	0.8	0.9 J	21	10	08/01/25 08:45
	Chromium	6020B	888259	170	174	2	10	08/01/25 08:45
	Copper	6020B	888259	508	523	3	10	08/01/25 08:45
	Lead	6020B	888259	14.6	32.9	125	10	08/01/25 08:45
	Nickel	6020B	888259	109	126	16	10	08/01/25 08:45
	Selenium	6020B	888259	4	3 U	27	10	08/01/25 08:45
	Silver	6020B	888259	0.5	0.5 J	1	10	08/01/25 08:45
	Zinc	6020B	888259	329	343	4	10	08/01/25 08:45
K2507459-019SDL								
	Aluminum	6020B	888259	147000	145000	1	10	08/01/25 10:07
	Arsenic	6020B	888259	403	407	1	10	08/01/25 10:07
	Cadmium	6020B	888259	1.1	1.1 J	0	10	08/01/25 10:07
	Chromium	6020B	888259	265	265	0	10	08/01/25 10:07
	Copper	6020B	888259	484	503	4	10	08/01/25 10:07
	Lead	6020B	888259	50.0	68.5	37	10	08/01/25 10:07
	Nickel	6020B	888259	261	283	8	10	08/01/25 10:07
	Selenium	6020B	888259	5	3 U	37	10	08/01/25 10:07
	Silver	6020B	888259	1.2	1.1 J	9	10	08/01/25 10:07
	Zinc	6020B	888259	869	895	3	10	08/01/25 10:07

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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Detection Limits

Instrument: K-ICP-MS-05

Matrix: Soil

Analyte	Mass	Units	MRL	MDL	Method
Aluminum	27	ug/L	4	1.1	6020B
Arsenic	75	ug/L	0.5	0.052	6020B
Cadmium	111	ug/L	0.04	0.0065	6020B
Chromium	52	ug/L	0.4	0.068	6020B
Copper	65	ug/L	0.4	0.13	6020B
Lead	208	ug/L	0.1	0.017	6020B
Nickel	60	ug/L	0.4	0.081	6020B
Selenium	78	ug/L	1	0.11	6020B
Silver	107	ug/L	0.04	0.0071	6020B
Zinc	66	ug/L	1	0.18	6020B

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Detection Limits

Instrument: K-CVAA-04

Matrix: Soil

Analyte	Wavelength (nm)	Units	MRL	MDL	Method
Mercury	253	ug/L	0.2	0.02	7471A

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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

ICP Linear Range (Quarterly)

Instrument: K-ICP-MS-05

Analyte	Concentration (ug/L)	Method
Aluminum 27	45000	6020B
Arsenic 75	3600	6020B
Cadmium 111	3600	6020B
Chromium 52	3600	6020B
Copper 65	9000	6020B
Lead 208	3600	6020B
Nickel 60	3600	6020B
Selenium 78	3600	6020B
Silver 107	180	6020B
Zinc 66	9000	6020B

ALS Group USA, Corp.
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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 888259

Sample	Dilution Factor	Date/Time	A	A	C	C	C	P	N	S	A	Z
			l	s	d	r	u	b	i	e	g	n
ZZZZZZ	1	08/01/25 07:27										
ZZZZZZ	1	08/01/25 07:29										
ICV	1	08/01/25 07:32	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 07:34	X	X	X	X	X	X	X	X	X	X
ICB	1	08/01/25 07:37	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 07:40	X	X	X	X	X	X	X	X	X	X
ZZZZZZ	1	08/01/25 07:42										
LLICVS	1	08/01/25 07:50	X	X	X	X	X	X	X	X	X	X
ICSA	1	08/01/25 07:54	X	X	X	X	X	X	X	X	X	X
ICSAB	1	08/01/25 07:56	X	X	X	X	X	X	X	X	X	X
ZZZZZZ	1	08/01/25 07:59										
ZZZZZZ	1	08/01/25 08:09										
ZZZZZZ	1	08/01/25 08:13										
KQ2513498-03MB	10	08/01/25 08:35	X	X	X	X	X	X	X	X	X	X
KQ2513498-04LCS	10	08/01/25 08:37	X	X	X	X	X	X	X	X	X	X
K2507459-001	10	08/01/25 08:40	X	X	X	X	X	X	X	X	X	X
ZZZZZZ	10	08/01/25 08:42										
K2507459-001SDL	50	08/01/25 08:45	X	X	X	X	X	X	X	X	X	X
K2507459-001PS	10	08/01/25 08:48	X	X	X	X	X	X	X	X	X	X
K2507459-001MS	10	08/01/25 08:50	X	X	X	X	X	X	X	X	X	X
K2507459-002	10	08/01/25 08:53	X	X	X	X	X	X	X	X	X	X
K2507459-003	10	08/01/25 08:55	X	X	X	X	X	X	X	X	X	X
K2507459-004	10	08/01/25 08:58	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 09:00	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 09:03	X	X	X	X	X	X	X	X	X	X
K2507459-001DUP	10	08/01/25 09:06	X	X	X	X	X	X	X	X	X	X
K2507459-005	10	08/01/25 09:08	X	X	X	X	X	X	X	X	X	X
K2507459-006	10	08/01/25 09:11	X	X	X	X	X	X	X	X	X	X
K2507459-007	10	08/01/25 09:13	X	X	X	X	X	X	X	X	X	X
K2507459-008	10	08/01/25 09:16	X	X	X	X	X	X	X	X	X	X
K2507459-009	10	08/01/25 09:18	X	X	X	X	X	X	X	X	X	X
K2507459-010	10	08/01/25 09:21	X	X	X	X	X	X	X	X	X	X
K2507459-011	10	08/01/25 09:24	X	X	X	X	X	X	X	X	X	X
K2507459-012	10	08/01/25 09:26	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 09:29	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 09:31	X	X	X	X	X	X	X	X	X	X
ZZZZZZ	10	08/01/25 09:34										

ALS Group USA, Corp.
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QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 888259

Sample	Dilution Factor	Date/Time	A	A	C	C	C	P	N	S	A	Z
			l	s	d	r	u	b	i	e	g	n
K2507459-014	10	08/01/25 09:36	X	X	X	X	X	X	X	X	X	X
K2507459-015	10	08/01/25 09:39	X	X	X	X	X	X	X	X	X	X
K2507459-016	10	08/01/25 09:42	X	X	X	X	X	X	X	X	X	X
K2507459-017	10	08/01/25 09:44	X	X	X	X	X	X	X	X	X	X
K2507459-018	10	08/01/25 09:47	X	X	X	X	X	X	X	X	X	X
K2507459-013	10	08/01/25 09:49	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 09:52	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 09:55	X	X	X	X	X	X	X	X	X	X
KQ2513499-03MB	10	08/01/25 09:57	X	X	X	X	X	X	X	X	X	X
KQ2513499-04LCS	10	08/01/25 10:00	X	X	X	X	X	X	X	X	X	X
K2507459-019	10	08/01/25 10:02	X	X	X	X	X	X	X	X	X	X
K2507459-019DUP	10	08/01/25 10:05	X	X	X	X	X	X	X	X	X	X
K2507459-019SDL	50	08/01/25 10:07	X	X	X	X	X	X	X	X	X	X
K2507459-019PS	10	08/01/25 10:10	X	X	X	X	X	X	X	X	X	X
K2507459-019MS	10	08/01/25 10:13	X	X	X	X	X	X	X	X	X	X
K2507459-020	10	08/01/25 10:15	X	X	X	X	X	X	X	X	X	X
K2507459-021	10	08/01/25 10:18	X	X	X	X	X	X	X	X	X	X
K2507459-022	10	08/01/25 10:20	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 10:23	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 10:26	X	X	X	X	X	X	X	X	X	X
K2507459-023	10	08/01/25 10:28	X	X	X	X	X	X	X	X	X	X
K2507459-024	10	08/01/25 10:31	X	X	X	X	X	X	X	X	X	X
K2507459-025	10	08/01/25 10:34	X	X	X	X	X	X	X	X	X	X
K2507459-026	10	08/01/25 10:36	X	X	X	X	X	X	X	X	X	X
K2507459-027	10	08/01/25 10:39	X	X	X	X	X	X	X	X	X	X
CCV	1	08/01/25 10:42	X	X	X	X	X	X	X	X	X	X
CCB	1	08/01/25 10:44	X	X	X	X	X	X	X	X	X	X

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Analysis Run Log

Instrument ID: K-CVAA-04

Analytical BatchID: 888470

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	08/04/25 09:51	
ZZZZZZ	1	08/04/25 09:53	
ZZZZZZ	1	08/04/25 09:54	
ZZZZZZ	1	08/04/25 09:56	
ZZZZZZ	1	08/04/25 09:58	
ZZZZZZ	1	08/04/25 09:59	
ICV1	1	08/04/25 10:01	X
ICB1	1	08/04/25 10:03	X
LLICV1	1	08/04/25 10:04	X
CCV1	1	08/04/25 10:06	X
CCB1	1	08/04/25 10:07	X
ZZZZZZ	1	08/04/25 10:09	
ZZZZZZ	1	08/04/25 10:11	
ZZZZZZ	1	08/04/25 10:12	
ZZZZZZ	2	08/04/25 10:20	
ZZZZZZ	2	08/04/25 10:22	
ZZZZZZ	2	08/04/25 10:24	
ZZZZZZ	2	08/04/25 10:25	
ZZZZZZ	1	08/04/25 10:27	
ZZZZZZ	1	08/04/25 10:28	
ZZZZZZ	1	08/04/25 10:31	
CCV2	1	08/04/25 10:33	X
CCB2	1	08/04/25 10:35	X
ZZZZZZ	1	08/04/25 10:36	
ZZZZZZ	1	08/04/25 10:38	
ZZZZZZ	1	08/04/25 10:39	
ZZZZZZ	1	08/04/25 10:41	
ZZZZZZ	1	08/04/25 10:43	
ZZZZZZ	5	08/04/25 10:46	
KQ2513496-03MB	1	08/04/25 10:48	X
KQ2513496-04LCS	1	08/04/25 10:50	X
K2507459-001	1	08/04/25 10:51	X
K2507459-001DUP	1	08/04/25 10:53	X
CCV3	1	08/04/25 10:54	X
CCB3	1	08/04/25 10:56	X
K2507459-001MS	1	08/04/25 10:58	X
K2507459-001PS	1	08/04/25 10:59	X

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Analysis Run Log

Instrument ID: K-CVAA-04

Analytical BatchID: 888470

Sample	Dilution Factor	Date/Time	H g
K2507459-002	1	08/04/25 11:01	X
K2507459-003	1	08/04/25 11:03	X
K2507459-004	1	08/04/25 11:04	X
K2507459-005	1	08/04/25 11:06	X
K2507459-006	1	08/04/25 11:07	X
K2507459-007	1	08/04/25 11:09	X
K2507459-008	1	08/04/25 11:11	X
K2507459-009	1	08/04/25 11:12	X
CCV4	1	08/04/25 11:14	X
CCB4	1	08/04/25 11:16	X
K2507459-010	1	08/04/25 11:17	X
K2507459-011	1	08/04/25 11:19	X
K2507459-012	1	08/04/25 11:20	X
K2507459-013	1	08/04/25 11:22	X
K2507459-014	1	08/04/25 11:24	X
K2507459-015	1	08/04/25 11:25	X
K2507459-016	1	08/04/25 11:27	X
K2507459-017	1	08/04/25 11:29	X
K2507459-018	1	08/04/25 11:30	X
KQ2513497-03MB	1	08/04/25 11:32	X
CCV5	1	08/04/25 11:33	X
CCB5	1	08/04/25 11:40	X
KQ2513497-04LCS	1	08/04/25 11:41	X
K2507459-019	1	08/04/25 11:43	X
K2507459-019DUP	1	08/04/25 11:45	X
K2507459-019MS	1	08/04/25 11:46	X
K2507459-019PS	1	08/04/25 11:48	X
K2507459-020	1	08/04/25 11:49	X
K2507459-021	1	08/04/25 11:51	X
K2507459-022	1	08/04/25 11:53	X
K2507459-023	1	08/04/25 11:54	X
K2507459-024	1	08/04/25 11:56	X
CCV6	1	08/04/25 11:58	X
CCB6	1	08/04/25 11:59	X
K2507459-025	1	08/04/25 12:01	X
K2507459-026	1	08/04/25 12:02	X
K2507459-027	1	08/04/25 12:04	X

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

Analysis Run Log

Instrument ID: K-CVAA-04

Analytical BatchID: 888470

Sample	Dilution Factor	Date/Time	H g
CCV7	1	08/04/25 12:06	X
CCB7	1	08/04/25 12:07	X

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 888259

Sample	Date/Time	Li6NG	Ge72H2	Ge72He	In115He	Lu175He
ZZZZZZ	08/01/25 07:27					
ZZZZZZ	08/01/25 07:29					
ICV	08/01/25 07:32	104	102	100	99	101
CCV	08/01/25 07:34	109	98	98	100	100
ICB	08/01/25 07:37	105	97	97	98	98
CCB	08/01/25 07:40	106	97	96	96	99
ZZZZZZ	08/01/25 07:42					
LLICVS	08/01/25 07:50	110	96	95	97	99
ICSA	08/01/25 07:54	106	92	90	91	94
ICSAB	08/01/25 07:56	94	92	89	89	97
ZZZZZZ	08/01/25 07:59					
ZZZZZZ	08/01/25 08:09					
ZZZZZZ	08/01/25 08:13					
KQ2513498-03MB	08/01/25 08:35	105	93	88	93	99
KQ2513498-04LCS	08/01/25 08:37	104	92	90	91	99
K2507459-001	08/01/25 08:40	104	93	90	93	99
ZZZZZZ	08/01/25 08:42					
K2507459-001SDL	08/01/25 08:45	108	95	89	92	98
K2507459-001PS	08/01/25 08:48	108	91	89	91	98
K2507459-001MS	08/01/25 08:50	108	92	88	90	99
K2507459-002	08/01/25 08:53	109	91	87	91	97
K2507459-003	08/01/25 08:55	109	92	88	92	99
K2507459-004	08/01/25 08:58	110	91	88	89	98
CCV	08/01/25 09:00	110	94	91	95	97
CCB	08/01/25 09:03	103	95	90	92	101
K2507459-001DUP	08/01/25 09:06	104	94	88	91	98
K2507459-005	08/01/25 09:08	111	93	90	93	99
K2507459-006	08/01/25 09:11	112	94	89	93	100
K2507459-007	08/01/25 09:13	112	95	91	94	100
K2507459-008	08/01/25 09:16	110	94	91	93	99
K2507459-009	08/01/25 09:18	110	94	91	95	101
K2507459-010	08/01/25 09:21	113	96	91	93	100
K2507459-011	08/01/25 09:24	112	94	90	93	100
K2507459-012	08/01/25 09:26	111	93	89	92	99
CCV	08/01/25 09:29	111	94	93	96	101
CCB	08/01/25 09:31	103	97	92	94	101
ZZZZZZ	08/01/25 09:34					

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring/

Service Request: K2507459

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 888259

Sample	Date/Time	Li6NG	Ge72H2	Ge72He	In115He	Lu175He
K2507459-014	08/01/25 09:36	111	96	91	94	101
K2507459-015	08/01/25 09:39	112	95	92	95	100
K2507459-016	08/01/25 09:42	113	96	90	94	100
K2507459-017	08/01/25 09:44	113	94	89	93	99
K2507459-018	08/01/25 09:47	114	93	90	92	98
K2507459-013	08/01/25 09:49	111	93	90	93	100
CCV	08/01/25 09:52	110	93	93	96	100
CCB	08/01/25 09:55	103	95	92	94	100
KQ2513499-03MB	08/01/25 09:57	104	97	90	93	97
KQ2513499-04LCS	08/01/25 10:00	95	95	93	98	101
K2507459-019	08/01/25 10:02	109	97	92	94	101
K2507459-019DUP	08/01/25 10:05	113	94	91	94	100
K2507459-019SDL	08/01/25 10:07	109	96	92	95	99
K2507459-019PS	08/01/25 10:10	115	91	90	93	99
K2507459-019MS	08/01/25 10:13	117	95	90	92	98
K2507459-020	08/01/25 10:15	104	95	90	92	100
K2507459-021	08/01/25 10:18	111	93	90	94	100
K2507459-022	08/01/25 10:20	111	95	91	94	100
CCV	08/01/25 10:23	110	93	92	95	99
CCB	08/01/25 10:26	102	95	92	94	100
K2507459-023	08/01/25 10:28	107	96	93	96	99
K2507459-024	08/01/25 10:31	111	95	92	94	99
K2507459-025	08/01/25 10:34	110	95	92	95	99
K2507459-026	08/01/25 10:36	112	95	91	94	100
K2507459-027	08/01/25 10:39	112	94	91	94	102
CCV	08/01/25 10:42	112	95	93	96	100
CCB	08/01/25 10:44	103	95	90	94	99



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Results Summary

Instrument Name: K-Balance-61 Analyst: ZBIBI Analysis Lot: 887981 Method/Testcode: 160.3 Modified/TS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
K2507459-019	Solids, Total	N/A		Soil	64.50 Percent	10 g	64.5 Percent	1					7/30/25 15:48:00	N IV
K2507459-020	Solids, Total	N/A		Soil	64.30 Percent	10 g	64.3 Percent	1					7/30/25 15:48:00	N IV
K2507459-021	Solids, Total	N/A		Soil	60.20 Percent	10 g	60.2 Percent	1					7/30/25 15:48:00	N IV
K2507459-022	Solids, Total	N/A		Soil	58.70 Percent	10 g	58.7 Percent	1					7/30/25 15:48:00	N IV
K2507459-023	Solids, Total	N/A		Soil	63.30 Percent	10 g	63.3 Percent	1					7/30/25 15:48:00	N IV
K2507459-024	Solids, Total	N/A		Soil	64.90 Percent	10 g	64.9 Percent	1					7/30/25 15:48:00	N IV
K2507459-025	Solids, Total	N/A		Soil	66.50 Percent	10 g	66.5 Percent	1					7/30/25 15:48:00	N IV
K2507459-026	Solids, Total	N/A		Soil	69.60 Percent	10 g	69.6 Percent	1					7/30/25 15:48:00	N IV
K2507459-027	Solids, Total	N/A		Soil	67.20 Percent	10 g	67.2 Percent	1					7/30/25 15:48:00	N IV
KQ2513462-01	Solids, Total	DUP	K2507459-019	Soil	65.80 Percent	10 g	65.8 Percent	1				2	7/30/25 15:48:00	N IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-Balance-61

Analyst: ZBIBI

Analysis Lot:

887980

Method/Testcode: 160.4 Modified/TVS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
K2507459-019	Solids, Total Volatile	N/A		Soil	2.70 Percent	10 g	2.70 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-020	Solids, Total Volatile	N/A		Soil	3.20 Percent	10 g	3.20 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-021	Solids, Total Volatile	N/A		Soil	8.00 Percent	10 g	8.00 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-022	Solids, Total Volatile	N/A		Soil	6.10 Percent	10 g	6.10 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-023	Solids, Total Volatile	N/A		Soil	5.20 Percent	10 g	5.20 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-024	Solids, Total Volatile	N/A		Soil	4.40 Percent	10 g	4.40 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-025	Solids, Total Volatile	N/A		Soil	4.20 Percent	10 g	4.20 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-026	Solids, Total Volatile	N/A		Soil	3.90 Percent	10 g	3.90 Percent	1		0.10			7/30/25 15:48:00	N IV
K2507459-027	Solids, Total Volatile	N/A		Soil	4.10 Percent	10 g	4.10 Percent	1		0.10			7/30/25 15:48:00	N IV
KQ2513461-01	Solids, Total Volatile	DUP	K2507459-019	Soil	2.70 Percent	10 g	2.70 Percent	1		0.10		<1	7/30/25 15:48:00	N IV
KQ2513461-02	Solids, Total Volatile	MB		Soil	0.00 Percent	10 g	0.10 Percent	U		0.10			7/30/25 15:48:00	N IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-001

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMUJCSP1S1
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	2.0954	2.9471
V.C. Sand, 1.00 mm (g)	18	2.2922	3.2239
C. Sand, 0.500 mm (g)	35	4.7604	6.6954
M. Sand, 0.250 mm (g)	60	7.3794	10.3789
F. Sand, 0.125 mm (g)	120	4.4648	6.2796
V.F. Sand, 0.0625 mm (g)	230	1.5024	2.1131
S/C <0.0625 mm (g)	Pan	0.1634	0.2298

Sieve Stack:

Total (g) Recov'd	22.6580
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	131.7721
Grams Beaker (Tare)	109.0770
Grams Gravel/Sand	22.6951

I. Sample Preparation

Grams As Received Sample	32.7140
Percent (%) Solids	71.1
Grams Oven Dried Sample	23.2597

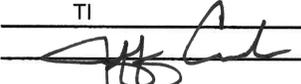
III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	29.2809	29.0747	28.2913	27.7890	41.3429	40.3032	27.4615
Grams of Tare	29.2596	29.0607	28.2836	27.7842	41.3394	40.3004	27.4594
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0211	0.0138	0.0075	0.0046	0.0033	0.0026	0.0019
Total Grams Sample X 50	0.3650	0.3150	0.1450	0.0650	0.0350	0.0350	0.0950

Balance ID: K-Balance-58

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-002

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUJCSP1S2
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	3.0404	4.1254
V.C. Sand, 1.00 mm (g)	18	4.1023	5.5662
C. Sand, 0.500 mm (g)	35	2.7266	3.6996
M. Sand, 0.250 mm (g)	60	2.9613	4.0180
F. Sand, 0.125 mm (g)	120	3.3233	4.5092
V.F. Sand, 0.0625 mm (g)	230	4.9971	6.7803
S/C <0.0625 mm (g)	Pan	0.6201	0.8414

Sieve Stack:

Total (g) Recov'd	21.7711
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	133.3184
Grams Beaker (Tare)	111.4843
Grams Gravel/Sand	21.8341

I. Sample Preparation

Grams As Received Sample	31
Percent (%) Solids	73.7
Grams Oven Dried Sample	22.9023

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	31.0253	26.2496	31.1095	29.7028	26.9704	31.3286	27.8243
Grams of Tare	30.9799	26.2323	31.0995	29.6966	26.9643	31.3232	27.8207
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0452	0.0171	0.0098	0.0060	0.0059	0.0052	0.0034
Total Grams Sample X 50	1.4050	0.3650	0.1900	0.0050	0.0350	0.0900	0.1700

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-002DUP

Client: Alaska Department of Fish and Sample Name: 2025KGMUJCSP1S2
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	4.0832	5.5403
V.C. Sand, 1.00 mm (g)	18	3.9412	5.3476
C. Sand, 0.500 mm (g)	35	3.5123	4.7657
M. Sand, 0.250 mm (g)	60	4.2145	5.7185
F. Sand, 0.125 mm (g)	120	3.4096	4.6263
V.F. Sand, 0.0625 mm (g)	230	3.6146	4.9045
S/C <0.0625 mm (g)	Pan	0.2638	0.3579

Sieve Stack:

Total (g) Recov'd	23.0392
Total (%) Recov'd	99

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	125.0452
Grams Beaker (Tare)	101.8654
Grams Gravel/Sand	23.1798

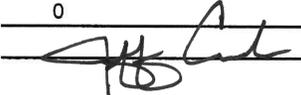
I. Sample Preparation

Grams As Received Sample	31.5330
Percent (%) Solids	73.7
Grams Oven Dried Sample	23.2398

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	33.9921	28.0620	27.3732	28.1960	31.9112	39.8315	28.7116
Grams of Tare	33.9560	28.0438	27.3623	28.1897	31.9061	39.8281	28.7085
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0359	0.0180	0.0107	0.0061	0.0049	0.0032	0.0029
Total Grams Sample X 50	0.8950	0.3650	0.2300	0.0600	0.0850	0.0150	0.1450

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-002TRP

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUJCSP1S2
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	5.5315	7.5054
V.C. Sand, 1.00 mm (g)	18	5.0501	6.8522
C. Sand, 0.500 mm (g)	35	3.2997	4.4772
M. Sand, 0.250 mm (g)	60	3.1309	4.2482
F. Sand, 0.125 mm (g)	120	3.0782	4.1767
V.F. Sand, 0.0625 mm (g)	230	3.8835	5.2693
S/C <0.0625 mm (g)	Pan	0.4514	0.6125

Sieve Stack:

Total (g) Recov'd	24.4253
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	134.3808
Grams Beaker (Tare)	109.8422
Grams Gravel/Sand	24.5386

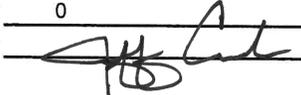
I. Sample Preparation

Grams As Received Sample	33.6270
Percent (%) Solids	73.7
Grams Oven Dried Sample	24.7831

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.4031	27.2943	29.2870	30.5963	31.6481	27.0898	29.2096
Grams of Tare	27.3522	27.2707	29.2745	30.5895	31.6447	27.0867	29.2086
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0507	0.0234	0.0123	0.0066	0.0032	0.0029	0.0008
Total Grams Sample X 50	1.3650	0.5550	0.2850	0.1700	0.0150	0.1050	0.0400

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-003

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUJCSP1S3
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.6355	0.9629
V.C. Sand, 1.00 mm (g)	18	2.4742	3.7488
C. Sand, 0.500 mm (g)	35	3.5959	5.4483
M. Sand, 0.250 mm (g)	60	5.2777	7.9965
F. Sand, 0.125 mm (g)	120	5.0626	7.6706
V.F. Sand, 0.0625 mm (g)	230	2.9930	4.5348
S/C <0.0625 mm (g)	Pan	0.3948	0.5982

Sieve Stack:

Total (g) Recov'd	20.4337
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	175.4774
Grams Beaker (Tare)	155.0150
Grams Gravel/Sand	20.4624

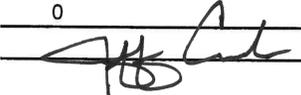
I. Sample Preparation

Grams As Received Sample	32.7220
Percent (%) Solids	66.0
Grams Oven Dried Sample	21.5965

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	30.6493	40.0136	30.7735	27.7749	34.0088	42.8815	30.4484
Grams of Tare	30.6124	39.9969	30.7659	27.7701	34.0054	42.8784	30.4472
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0367	0.0165	0.0074	0.0046	0.0032	0.0029	0.0010
Total Grams Sample X 50	1.0100	0.4550	0.1400	0.0700	0.0150	0.0950	0.0500

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-004

Client: Alaska Department of Fish and Game Sample Name: 2025KGMLJCS1
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.0550	0.0846
V.C. Sand, 1.00 mm (g)	18	0.4199	0.6460
C. Sand, 0.500 mm (g)	35	1.9042	2.9295
M. Sand, 0.250 mm (g)	60	6.6920	10.2954
F. Sand, 0.125 mm (g)	120	7.0553	10.8543
V.F. Sand, 0.0625 mm (g)	230	2.7777	4.2734
S/C <0.0625 mm (g)	Pan	0.5400	0.8308

Sieve Stack:

Total (g) Recov'd	19.4441
Total (%) Recov'd	99

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	130.7910
Grams Beaker (Tare)	111.2431
Grams Gravel/Sand	19.5479

I. Sample Preparation

Grams As Received Sample	32.2050
Percent (%) Solids	65.0
Grams Oven Dried Sample	20.9333

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.2858	28.1104	27.3489	27.2760	29.0833	41.9606	31.6100
Grams of Tare	27.2409	28.0861	27.3354	27.2684	29.0785	41.9570	31.6090
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0447	0.0241	0.0133	0.0074	0.0046	0.0034	0.0008
Total Grams Sample X 50	1.0300	0.5400	0.2950	0.1400	0.0600	0.1300	0.0400

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-005

Client: Alaska Department of Fish and Game Sample Name: 2025KGMLJCS2
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.1552	0.2391
V.C. Sand, 1.00 mm (g)	18	0.3774	0.5815
C. Sand, 0.500 mm (g)	35	0.5951	0.9169
M. Sand, 0.250 mm (g)	60	3.8737	5.9687
F. Sand, 0.125 mm (g)	120	8.8854	13.6909
V.F. Sand, 0.0625 mm (g)	230	4.3980	6.7766
S/C <0.0625 mm (g)	Pan	0.5493	0.8464

Sieve Stack:

Total (g) Recov'd	18.8341
Total (%) Recov'd	100.4

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	126.1105
Grams Beaker (Tare)	107.3450
Grams Gravel/Sand	18.7655

I. Sample Preparation

Grams As Received Sample	31.7990
Percent (%) Solids	64.9
Grams Oven Dried Sample	20.6376

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.1951	31.4879	28.1697	28.7205	28.4324	27.7720	27.9284
Grams of Tare	28.1399	31.4570	28.1526	28.7105	28.4269	27.7685	27.9269
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0550	0.0307	0.0169	0.0098	0.0053	0.0033	0.0013
Total Grams Sample X 50	1.2150	0.6900	0.3550	0.2250	0.1000	0.1000	0.0650

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-006

Client: Alaska Department of Fish and Game Sample Name: 2025KGMLJCS3
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	1.1529	1.7548
V.C. Sand, 1.00 mm (g)	18	1.2039	1.8324
C. Sand, 0.500 mm (g)	35	3.6827	5.6053
M. Sand, 0.250 mm (g)	60	9.7910	14.9026
F. Sand, 0.125 mm (g)	120	5.8550	8.9117
V.F. Sand, 0.0625 mm (g)	230	1.1604	1.7662
S/C <0.0625 mm (g)	Pan	0.2626	0.3997

Sieve Stack:

Total (g) Recov'd	23.1085
Total (%) Recov'd	103

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	130.9450
Grams Beaker (Tare)	108.4209
Grams Gravel/Sand	22.5241

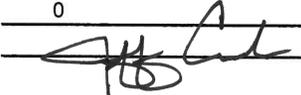
I. Sample Preparation

Grams As Received Sample	36.8210
Percent (%) Solids	65.7
Grams Oven Dried Sample	24.1914

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	29.2516	31.7343	26.8410	41.8819	27.2701	28.4634	27.5794
Grams of Tare	29.2051	31.7058	26.8224	41.8706	27.2636	28.4599	27.5774
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0463	0.0283	0.0184	0.0111	0.0063	0.0033	0.0018
Total Grams Sample X 50	0.9000	0.4950	0.3650	0.2400	0.1500	0.0750	0.0900

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-007

Client: Alaska Department of Fish and Game Sample Name: 2025KGMEFSCS2
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	14.6031	21.6985
V.C. Sand, 1.00 mm (g)	18	4.7853	7.1104
C. Sand, 0.500 mm (g)	35	1.5916	2.3649
M. Sand, 0.250 mm (g)	60	0.4236	0.6294
F. Sand, 0.125 mm (g)	120	0.1515	0.2251
V.F. Sand, 0.0625 mm (g)	230	0.0753	0.1119
S/C <0.0625 mm (g)	Pan	0.0415	0.0617

Sieve Stack:

Total (g) Recov'd	21.6719
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	135.0043
Grams Beaker (Tare)	113.3411
Grams Gravel/Sand	21.6632

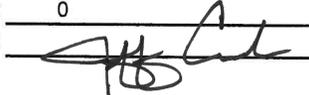
I. Sample Preparation

Grams As Received Sample	30.5970
Percent (%) Solids	67.3
Grams Oven Dried Sample	20.5918

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.5297	29.2083	34.7054	35.2233	40.5144	27.1792	27.3107
Grams of Tare	27.5235	29.2036	34.7008	35.2193	40.5105	27.1759	27.3096
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0060	0.0045	0.0044	0.0038	0.0037	0.0031	0.0009
Total Grams Sample X 50	0.0750	0.0050	0.0300	0.0050	0.0300	0.1100	0.0450

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

ALS Group USA, Corp.
a ALS Environmental
Analytical Report

Service Request #: K2507459
Sample #: K2507459-008

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUSCSP1S1
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	9.6141	14.7909
V.C. Sand, 1.00 mm (g)	18	4.5511	7.0017
C. Sand, 0.500 mm (g)	35	2.9759	4.5783
M. Sand, 0.250 mm (g)	60	2.3501	3.6155
F. Sand, 0.125 mm (g)	120	1.4000	2.1538
V.F. Sand, 0.0625 mm (g)	230	0.5735	0.8823
S/C <0.0625 mm (g)	Pan	0.0710	0.1092

Sieve Stack:

Total (g) Recov'd	21.5357
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	134.0309
Grams Beaker (Tare)	112.4947
Grams Gravel/Sand	21.5362

I. Sample Preparation

Grams As Received Sample	31.2860
Percent (%) Solids	65.0
Grams Oven Dried Sample	20.3359

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.8193	27.1749	27.2051	27.5323	28.5573	42.4368	27.5039
Grams of Tare	27.8073	27.1659	27.1987	27.5280	28.5544	42.4340	27.5033
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0118	0.0088	0.0062	0.0041	0.0027	0.0026	0.0004
Total Grams Sample X 50	0.1500	0.1300	0.1050	0.0700	0.0050	0.1100	0.0200

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-009

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMUSCSP1S2
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	11.6115	19.7474
V.C. Sand, 1.00 mm (g)	18	3.0269	5.1478
C. Sand, 0.500 mm (g)	35	3.4379	5.8468
M. Sand, 0.250 mm (g)	60	2.9983	5.0991
F. Sand, 0.125 mm (g)	120	1.2751	2.1685
V.F. Sand, 0.0625 mm (g)	230	0.4811	0.8182
S/C <0.0625 mm (g)	Pan	0.0696	0.1184

Sieve Stack:

Total (g) Recov'd	22.9004
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	133.3804
Grams Beaker (Tare)	110.4675
Grams Gravel/Sand	22.9129

I. Sample Preparation

Grams As Received Sample	35.7200
Percent (%) Solids	58.8
Grams Oven Dried Sample	21.0034

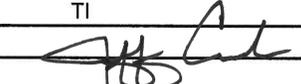
III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.8688	34.2406	27.5345	41.7501	27.8402	30.7990	30.5579
Grams of Tare	28.8527	34.2275	27.5241	41.7435	27.8360	30.7951	30.5543
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0159	0.0129	0.0102	0.0064	0.0040	0.0037	0.0034
Total Grams Sample X 50	0.1500	0.1350	0.1900	0.1200	0.0150	0.0150	0.1700

Balance ID: K-Balance-58

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-010

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUSCSP1S3
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	11.7408	16.6536
V.C. Sand, 1.00 mm (g)	18	5.5273	7.8401
C. Sand, 0.500 mm (g)	35	3.6057	5.1145
M. Sand, 0.250 mm (g)	60	1.1689	1.6580
F. Sand, 0.125 mm (g)	120	0.5041	0.7150
V.F. Sand, 0.0625 mm (g)	230	0.1828	0.2593
S/C <0.0625 mm (g)	Pan	0.2300	0.3262

Sieve Stack:

Total (g) Recov'd	22.9596
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	124.6887
Grams Beaker (Tare)	101.7811
Grams Gravel/Sand	22.9076

I. Sample Preparation

Grams As Received Sample	32
Percent (%) Solids	70.5
Grams Oven Dried Sample	22.3358

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	29.2923	28.9393	27.4420	28.5703	30.1854	27.5759	27.4299
Grams of Tare	29.2862	28.9348	27.4382	28.5673	30.1824	27.5731	27.4289
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0059	0.0043	0.0036	0.0028	0.0028	0.0026	0.0008
Total Grams Sample X 50	0.0800	0.0350	0.0400	0.0000	0.0100	0.0900	0.0400

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-011

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMUSCSP2S1
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	12.1896	17.7950
V.C. Sand, 1.00 mm (g)	18	7.6954	11.2342
C. Sand, 0.500 mm (g)	35	2.8802	4.2047
M. Sand, 0.250 mm (g)	60	0.6323	0.9231
F. Sand, 0.125 mm (g)	120	0.1813	0.2647
V.F. Sand, 0.0625 mm (g)	230	0.0980	0.1431
S/C <0.0625 mm (g)	Pan	0.0575	0.0839

Sieve Stack:

Total (g) Recov'd	23.7343
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.2904
Grams Beaker (Tare)	108.4957
Grams Gravel/Sand	23.7947

I. Sample Preparation

Grams As Received Sample	32.7390
Percent (%) Solids	68.5
Grams Oven Dried Sample	22.4262

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.1431	28.2224	29.2315	27.9100	28.9521	28.0387	31.0602
Grams of Tare	28.1376	28.2174	29.2271	27.9067	28.9490	28.0357	31.0573
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0053	0.0048	0.0042	0.0031	0.0029	0.0028	0.0027
Total Grams Sample X 50	0.0250	0.0300	0.0550	0.0100	0.0050	0.0050	0.1350

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-012

Client: Alaska Department of Fish and Sample Name: 2025KGMUSCSP2S2
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	11.8446	17.3930
V.C. Sand, 1.00 mm (g)	18	6.3084	9.2634
C. Sand, 0.500 mm (g)	35	3.3405	4.9053
M. Sand, 0.250 mm (g)	60	1.5049	2.2098
F. Sand, 0.125 mm (g)	120	0.6409	0.9411
V.F. Sand, 0.0625 mm (g)	230	0.2348	0.3448
S/C <0.0625 mm (g)	Pan	0.0531	0.0780

Sieve Stack:

Total (g) Recov'd	23.9272
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	133.1964
Grams Beaker (Tare)	109.3031
Grams Gravel/Sand	23.8933

I. Sample Preparation

Grams As Received Sample	34.6950
Percent (%) Solids	68.1
Grams Oven Dried Sample	23.6273

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.3493	40.8709	28.6471	27.2595	41.3297	30.9584	27.3623
Grams of Tare	27.3388	40.8616	28.6401	27.2546	41.3265	30.9553	27.3598
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0103	0.0091	0.0068	0.0047	0.0030	0.0029	0.0023
Total Grams Sample X 50	0.0600	0.1150	0.1050	0.0850	0.0050	0.0300	0.1150

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-013

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMUSCSP2S3
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	13.0204	18.7344
V.C. Sand, 1.00 mm (g)	18	5.2948	7.6184
C. Sand, 0.500 mm (g)	35	3.2806	4.7203
M. Sand, 0.250 mm (g)	60	1.6434	2.3646
F. Sand, 0.125 mm (g)	120	0.5817	0.8370
V.F. Sand, 0.0625 mm (g)	230	0.2004	0.2883
S/C <0.0625 mm (g)	Pan	0.0667	0.0960

Sieve Stack:

Total (g) Recov'd	24.0880
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	137.2505
Grams Beaker (Tare)	113.1815
Grams Gravel/Sand	24.0690

I. Sample Preparation

Grams As Received Sample	31.7070
Percent (%) Solids	69.5
Grams Oven Dried Sample	22.0364

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	29.3697	29.2109	29.0831	29.5102	29.2024	28.4320	28.5966
Grams of Tare	29.3646	29.2058	29.0800	29.5072	29.1995	28.4298	28.5953
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0049	0.0049	0.0029	0.0028	0.0027	0.0020	0.0011
Total Grams Sample X 50	0.0000	0.1000	0.0050	0.0050	0.0350	0.0450	0.0550

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-014

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMEFSCS1
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	6.4287	10.6612
V.C. Sand, 1.00 mm (g)	18	7.0627	11.7126
C. Sand, 0.500 mm (g)	35	2.1678	3.5950
M. Sand, 0.250 mm (g)	60	3.3810	5.6070
F. Sand, 0.125 mm (g)	120	0.6587	1.0924
V.F. Sand, 0.0625 mm (g)	230	0.2392	0.3967
S/C <0.0625 mm (g)	Pan	0.0289	0.0479

Sieve Stack:

Total (g) Recov'd	19.9670
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	135.3667
Grams Beaker (Tare)	115.4989
Grams Gravel/Sand	19.8678

I. Sample Preparation

Grams As Received Sample	31.6440
Percent (%) Solids	60.3
Grams Oven Dried Sample	19.0813

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.9059	42.7473	28.2250	27.6859	29.2323	39.9693	27.8772
Grams of Tare	27.8961	42.7404	28.2181	27.6805	29.2288	39.9665	27.8746
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0096	0.0067	0.0067	0.0052	0.0033	0.0026	0.0024
Total Grams Sample X 50	0.1450	0.0000	0.0750	0.0950	0.0350	0.0100	0.1200

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-015

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil
Sample Name: 2025KGMLSHSP1S1
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.8821	1.3126
V.C. Sand, 1.00 mm (g)	18	6.9969	10.4121
C. Sand, 0.500 mm (g)	35	10.3686	15.4295
M. Sand, 0.250 mm (g)	60	2.5093	3.7341
F. Sand, 0.125 mm (g)	120	0.1432	0.2131
V.F. Sand, 0.0625 mm (g)	230	0.0395	0.0588
S/C <0.0625 mm (g)	Pan	0.0174	0.0259

Sieve Stack:

Total (g) Recov'd	20.9570
Total (%) Recov'd	99.6

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.3892
Grams Beaker (Tare)	111.3547
Grams Gravel/Sand	21.0345

I. Sample Preparation

Grams As Received Sample	31.3050
Percent (%) Solids	67.2
Grams Oven Dried Sample	21.0370

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	30.9081	29.2520	29.2083	28.0195	29.0137	29.2491	39.8296
Grams of Tare	30.9028	29.2468	29.2038	28.0157	29.0114	29.2471	39.8285
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0051	0.0050	0.0043	0.0036	0.0021	0.0018	0.0009
Total Grams Sample X 50	0.0050	0.0350	0.0350	0.0750	0.0150	0.0450	0.0450

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-016

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMLSHSP1S2
Date Collected: 7/24/2025
Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	1.8135	2.8786
V.C. Sand, 1.00 mm (g)	18	6.1688	9.7917
C. Sand, 0.500 mm (g)	35	8.0304	12.7467
M. Sand, 0.250 mm (g)	60	4.9880	7.9175
F. Sand, 0.125 mm (g)	120	1.8142	2.8797
V.F. Sand, 0.0625 mm (g)	230	0.4244	0.6737
S/C <0.0625 mm (g)	Pan	0.0278	0.0441

Sieve Stack:

Total (g) Recov'd	23.2671
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	128.9443
Grams Beaker (Tare)	105.6111
Grams Gravel/Sand	23.3332

I. Sample Preparation

Grams As Received Sample	34.3030
Percent (%) Solids	63.0
Grams Oven Dried Sample	21.6109

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	43.6911	27.8652	29.0750	31.6758	29.3808	27.6269	34.6008
Grams of Tare	43.6844	27.8597	29.0709	31.6723	29.3774	27.6240	34.5982
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0065	0.0053	0.0039	0.0033	0.0032	0.0027	0.0024
Total Grams Sample X 50	0.0600	0.0700	0.0300	0.0050	0.0250	0.0150	0.1200

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-017

Client: Alaska Department of Fish and Sample Name: 2025KGMLSHSP1S3
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	4.9120	7.5337
V.C. Sand, 1.00 mm (g)	18	5.8489	8.9707
C. Sand, 0.500 mm (g)	35	6.9573	10.6707
M. Sand, 0.250 mm (g)	60	3.3510	5.1396
F. Sand, 0.125 mm (g)	120	0.6018	0.9230
V.F. Sand, 0.0625 mm (g)	230	0.1101	0.1689
S/C <0.0625 mm (g)	Pan	0.0103	0.0158

Sieve Stack:

Total (g) Recov'd	21.7914
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.8903
Grams Beaker (Tare)	111.0155
Grams Gravel/Sand	21.8748

I. Sample Preparation

Grams As Received Sample	32.4360
Percent (%) Solids	65.2
Grams Oven Dried Sample	21.1483

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.8547	27.3179	27.6962	28.7084	34.3816	28.0544	40.3501
Grams of Tare	27.8501	27.3135	27.6925	28.7050	34.3790	28.0519	40.3491
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0044	0.0042	0.0035	0.0032	0.0024	0.0023	0.0008
Total Grams Sample X 50	0.0100	0.0350	0.0150	0.0400	0.0050	0.0750	0.0400

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

S Group USA, Corp.
a ALS Environmental
Analytical Report

Service Request #: K2507459
Sample #: K2507459-018

Client: Alaska Department of Fish and Sample Name: 2025KGMUSHS1
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	4.2308	5.9007
V.C. Sand, 1.00 mm (g)	18	4.2833	5.9739
C. Sand, 0.500 mm (g)	35	5.1488	7.1810
M. Sand, 0.250 mm (g)	60	4.3037	6.0024
F. Sand, 0.125 mm (g)	120	2.3155	3.2294
V.F. Sand, 0.0625 mm (g)	230	0.7682	1.0714
S/C <0.0625 mm (g)	Pan	0.0920	0.1283

Sieve Stack:

Total (g) Recov'd	21.1423
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	130.9838
Grams Beaker (Tare)	109.7486
Grams Gravel/Sand	21.2352

I. Sample Preparation

Grams As Received Sample	31.3290
Percent (%) Solids	71.7
Grams Oven Dried Sample	22.4629

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.6856	27.6427	28.3561	35.0796	27.3943	27.5546	29.1988
Grams of Tare	28.6720	27.6325	28.3481	35.0744	27.3909	27.5521	29.1969
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0134	0.0100	0.0078	0.0050	0.0032	0.0023	0.0017
Total Grams Sample X 50	0.1700	0.1100	0.1400	0.0900	0.0450	0.0300	0.0850

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-019

Client: Alaska Department of Fish and Game Sample Name: 2025KGMUSHS2
Project: 2025 Kensington Biomonitoring Date Collected: 7/24/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	2.3009	3.5673
V.C. Sand, 1.00 mm (g)	18	5.5201	8.5583
C. Sand, 0.500 mm (g)	35	7.9630	12.3457
M. Sand, 0.250 mm (g)	60	6.2603	9.7059
F. Sand, 0.125 mm (g)	120	2.1087	3.2693
V.F. Sand, 0.0625 mm (g)	230	0.4468	0.6927
S/C <0.0625 mm (g)	Pan	0.0290	0.0450

Sieve Stack:

Total (g) Recov'd	24.6288
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	131.8459
Grams Beaker (Tare)	107.1754
Grams Gravel/Sand	24.6705

I. Sample Preparation

Grams As Received Sample	37.4280
Percent (%) Solids	64.5
Grams Oven Dried Sample	24.1411

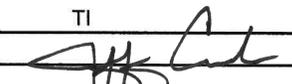
III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.7616	28.2940	40.2605	27.4886	29.2839	41.0048	29.1005
Grams of Tare	28.7541	28.2865	40.2540	27.4834	29.2807	41.0022	29.0986
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0073	0.0073	0.0063	0.0050	0.0030	0.0024	0.0017
Total Grams Sample X 50	0.0000	0.0500	0.0650	0.1000	0.0300	0.0350	0.0850

Balance ID: K-Balance-58

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-020

Client: <u>Alaska Department of Fish and</u>	Sample Name: <u>2025KGMUSHS3</u>
Project: <u>2025 Kensington Biomonitoring</u>	Date Collected: <u>7/24/2025</u>
Sample Matrix: <u>Soil</u>	Date Received: <u>7/29/2025</u>
	Date Analyzed: <u>8/12/2025</u>

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	12.7984	19.9042
V.C. Sand, 1.00 mm (g)	18	8.2259	12.7930
C. Sand, 0.500 mm (g)	35	4.3407	6.7507
M. Sand, 0.250 mm (g)	60	1.1688	1.8177
F. Sand, 0.125 mm (g)	120	0.2555	0.3974
V.F. Sand, 0.0625 mm (g)	230	0.0625	0.0972
S/C <0.0625 mm (g)	Pan	0.0050	0.0078

Sieve Stack:

Total (g) Recov'd	26.8568
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	137.3516
Grams Beaker (Tare)	110.3995
Grams Gravel/Sand	26.9521

I. Sample Preparation

Grams As Received Sample	39
Percent (%) Solids	64.3
Grams Oven Dried Sample	25.3291

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID#

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	31.4163	40.6156	29.5275	27.0912	29.2869	27.3973	28.3225
Grams of Tare	31.4102	40.6099	29.5235	27.0873	29.2846	27.3954	28.3208
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0059	0.0055	0.0038	0.0037	0.0021	0.0017	0.0015
Total Grams Sample X 50	0.0200	0.0850	0.0050	0.0800	0.0200	0.0100	0.0750

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

Work Request # K2507746, K2507568, K2507459

Date Analyzed: 8/15/25

Analyst: J

Run # 888909

Analysis: PSEP EB

Data Entry _____

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- 1. Is the method name and number correct and appropriate? yes/no/NA
- 2. Holding times met for all analyses and for all samples? yes/no/NA
- 3. Are calculations correct? yes/no/NA
- 4. Is the reporting basis correct? (Dry Weight) yes/no/NA
- 5. All quality control criteria met? yes/no
- 6. Is the calibration curve correlation coefficient ≥ 0.995 ? yes/no/NA
- 7. MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? yes/no/NA
- 8. Are ICVs, CCVs, and CCBs all within acceptance limits? yes/no/NA
- 9. Are results for methods blanks all ND? yes/no/NA
- 10. Are all QC samples within acceptance criteria? yes/no/NA
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)
- 11. Are all exceptions explained? yes/no/NA
- 12. Have all applicable service requests been reviewed? yes/no/NA
- 13. Are all samples labeled correctly? yes/no/NA
- 14. Have all instructions on the service request been followed? yes/no/NA
(e.g. Special MRLs, QC on a specific sample, Form V)
- 15. Are detection limits and units reported correctly? yes/no/NA
- 16. Is the unused space on the bench sheet crossed out? yes/no/NA
- 17. Was analysis turned in by the data due date? (If not record SR#) yes/no/NA

COMMENTS:

Secondary Approved by:  Date: 08/15/25

DQREPORT

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-021

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMEFSCS3
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	4.2074	6.9890
V.C. Sand, 1.00 mm (g)	18	8.0764	13.4159
C. Sand, 0.500 mm (g)	35	1.1015	1.8297
M. Sand, 0.250 mm (g)	60	0.2793	0.4640
F. Sand, 0.125 mm (g)	120	0.1291	0.2145
V.F. Sand, 0.0625 mm (g)	230	5.5912	9.2877
S/C <0.0625 mm (g)	Pan	0.1016	0.1688

Sieve Stack:

Total (g) Recov'd	19.4865
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	131.5938
Grams Beaker (Tare)	112.0928
Grams Gravel/Sand	19.5010

I. Sample Preparation

Grams As Received Sample	31.2950
Percent (%) Solids	60.2
Grams Oven Dried Sample	18.8396

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.8716	27.7013	28.6227	30.3331	39.7081	28.8696	29.5585
Grams of Tare	28.8644	27.6961	28.6176	30.3294	39.7044	28.8661	29.5578
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0070	0.0050	0.0049	0.0035	0.0035	0.0033	0.0005
Total Grams Sample X 50	0.1000	0.0050	0.0700	0.0000	0.0100	0.1400	0.0250

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-021DUP

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMEFSCS3
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	4.1489	6.8919
V.C. Sand, 1.00 mm (g)	18	7.6881	12.7709
C. Sand, 0.500 mm (g)	35	4.7660	7.9169
M. Sand, 0.250 mm (g)	60	1.2048	2.0013
F. Sand, 0.125 mm (g)	120	0.2990	0.4967
V.F. Sand, 0.0625 mm (g)	230	0.1044	0.1734
S/C <0.0625 mm (g)	Pan	0.0700	0.1163

Sieve Stack:

Total (g) Recov'd	18.2812
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	129.3248
Grams Beaker (Tare)	111.0699
Grams Gravel/Sand	18.2549

I. Sample Preparation

Grams As Received Sample	31.3160
Percent (%) Solids	60.2
Grams Oven Dried Sample	18.8522

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.5152	28.7903	31.2859	28.2375	27.0707	27.1517	26.9971
Grams of Tare	28.5090	28.7851	31.2809	28.2332	27.0668	27.1479	26.9954
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0060	0.0050	0.0048	0.0041	0.0037	0.0036	0.0015
Total Grams Sample X 50	0.0500	0.0100	0.0350	0.0200	0.0050	0.1050	0.0750

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-021TRP

Client: Alaska Department of Fish and Sample Name: 2025KGMEFSCS3
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	6.1121	10.1530
V.C. Sand, 1.00 mm (g)	18	7.1762	11.9206
C. Sand, 0.500 mm (g)	35	4.9881	8.2859
M. Sand, 0.250 mm (g)	60	1.2986	2.1571
F. Sand, 0.125 mm (g)	120	0.2923	0.4855
V.F. Sand, 0.0625 mm (g)	230	0.1125	0.1869
S/C <0.0625 mm (g)	Pan	0.0871	0.1447

Sieve Stack:

Total (g) Recov'd	20.0669
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	129.9379
Grams Beaker (Tare)	109.9496
Grams Gravel/Sand	19.9883

I. Sample Preparation

Grams As Received Sample	31.1040
Percent (%) Solids	60.2
Grams Oven Dried Sample	18.7246

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	29.2233	28.2037	27.7191	28.6741	27.7177	34.0625	26.7460
Grams of Tare	29.2160	28.1970	27.7142	28.6699	27.7138	34.0597	26.7440
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0071	0.0065	0.0047	0.0040	0.0037	0.0026	0.0018
Total Grams Sample X 50	0.0300	0.0900	0.0350	0.0150	0.0550	0.0400	0.0900

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-022

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMWFSCS1
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.7553	1.2867
V.C. Sand, 1.00 mm (g)	18	1.1484	1.9564
C. Sand, 0.500 mm (g)	35	5.2380	8.9233
M. Sand, 0.250 mm (g)	60	8.1818	13.9383
F. Sand, 0.125 mm (g)	120	2.7176	4.6296
V.F. Sand, 0.0625 mm (g)	230	0.9925	1.6908
S/C <0.0625 mm (g)	Pan	0.0166	0.0283

Sieve Stack:

Total (g) Recov'd	19.0502
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	139.6035
Grams Beaker (Tare)	120.4810
Grams Gravel/Sand	19.1225

I. Sample Preparation

Grams As Received Sample	34.9720
Percent (%) Solids	58.7
Grams Oven Dried Sample	20.5286

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.6923	40.8940	31.8088	39.2269	28.4020	27.5569	28.0150
Grams of Tare	27.6711	40.8786	31.7983	39.2211	28.3979	27.5540	28.0122
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0210	0.0152	0.0103	0.0056	0.0039	0.0027	0.0026
Total Grams Sample X 50	0.2900	0.2450	0.2350	0.0850	0.0600	0.0050	0.1300

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-023

Client: Alaska Department of Fish and Sample Name: 2025KGMWFSCS2
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.6949	1.0978
V.C. Sand, 1.00 mm (g)	18	1.6952	2.6780
C. Sand, 0.500 mm (g)	35	5.7605	9.1003
M. Sand, 0.250 mm (g)	60	7.9215	12.5142
F. Sand, 0.125 mm (g)	120	3.0268	4.7817
V.F. Sand, 0.0625 mm (g)	230	0.7020	1.1090
S/C <0.0625 mm (g)	Pan	0.0748	0.1182

Sieve Stack:

Total (g) Recov'd	19.8757
Total (%) Recov'd	99.9

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	128.1869
Grams Beaker (Tare)	108.2958
Grams Gravel/Sand	19.8911

I. Sample Preparation

Grams As Received Sample	31.4600
Percent (%) Solids	63.3
Grams Oven Dried Sample	19.9142

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.9239	34.6652	39.7446	39.6072	27.2707	27.3923	27.6279
Grams of Tare	28.9133	34.6560	39.7392	39.6040	27.2675	27.3895	27.6261
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0104	0.0090	0.0052	0.0030	0.0030	0.0026	0.0016
Total Grams Sample X 50	0.0700	0.1900	0.1100	0.0000	0.0200	0.0500	0.0800

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
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Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-024

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMWFSCS3
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	1.0743	1.6553
V.C. Sand, 1.00 mm (g)	18	3.7175	5.7280
C. Sand, 0.500 mm (g)	35	9.7795	15.0686
M. Sand, 0.250 mm (g)	60	6.2370	9.6102
F. Sand, 0.125 mm (g)	120	1.0876	1.6758
V.F. Sand, 0.0625 mm (g)	230	0.1553	0.2393
S/C <0.0625 mm (g)	Pan	0.0151	0.0233

Sieve Stack:

Total (g) Recov'd	22.0663
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.2045
Grams Beaker (Tare)	110.0629
Grams Gravel/Sand	22.1416

I. Sample Preparation

Grams As Received Sample	34.0770
Percent (%) Solids	64.9
Grams Oven Dried Sample	22.1160

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	31.6999	27.2473	28.4610	31.8048	27.9829	27.3864	27.0052
Grams of Tare	31.6936	27.2418	28.4558	31.8004	27.9787	27.3832	27.0033
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0061	0.0053	0.0050	0.0042	0.0040	0.0030	0.0017
Total Grams Sample X 50	0.0400	0.0150	0.0400	0.0100	0.0500	0.0650	0.0850

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-025

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMLSCS1
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	2.1056	3.1663
V.C. Sand, 1.00 mm (g)	18	6.5188	9.8027
C. Sand, 0.500 mm (g)	35	11.4200	17.1729
M. Sand, 0.250 mm (g)	60	5.4696	8.2250
F. Sand, 0.125 mm (g)	120	0.8772	1.3191
V.F. Sand, 0.0625 mm (g)	230	0.3318	0.4989
S/C <0.0625 mm (g)	Pan	0.0453	0.0681

Sieve Stack:

Total (g) Recov'd	26.7683
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	131.6696
Grams Beaker (Tare)	105.0318
Grams Gravel/Sand	26.6378

I. Sample Preparation

Grams As Received Sample	39.9180
Percent (%) Solids	66.5
Grams Oven Dried Sample	26.5455

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.4886	41.0757	30.3476	28.4593	30.1478	28.5596	28.8888
Grams of Tare	27.4775	41.0668	30.3413	28.4547	30.1444	28.5562	28.8868
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0109	0.0087	0.0061	0.0044	0.0032	0.0032	0.0018
Total Grams Sample X 50	0.1100	0.1300	0.0850	0.0600	0.0000	0.0700	0.0900

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

ALS Group USA, Corp.
a ALS Environmental
Analytical Report

Service Request #: K2507459
Sample #: K2507459-026

Client: Alaska Department of Fish and Game Sample Name: 2025KGMLSCS2
Project: 2025 Kensington Biomonitoring Date Collected: 7/25/2025
Sample Matrix: Soil Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	5.2202	7.5003
V.C. Sand, 1.00 mm (g)	18	6.9458	9.9796
C. Sand, 0.500 mm (g)	35	6.2780	9.0201
M. Sand, 0.250 mm (g)	60	2.9990	4.3089
F. Sand, 0.125 mm (g)	120	1.2048	1.7310
V.F. Sand, 0.0625 mm (g)	230	0.2642	0.3796
S/C <0.0625 mm (g)	Pan	0.0270	0.0388

Sieve Stack:

Total (g) Recov'd	22.9390
Total (%) Recov'd	101

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	129.7358
Grams Beaker (Tare)	106.9956
Grams Gravel/Sand	22.7402

I. Sample Preparation

Grams As Received Sample	32.8740
Percent (%) Solids	69.6
Grams Oven Dried Sample	22.8803

III. Determination of Silt/Clay Fraction

Temperature: 23 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.4237	41.1070	28.9855	27.4156	29.1124	28.2810	27.4781
Grams of Tare	27.4167	41.1012	28.9811	27.4114	29.1084	28.2778	27.4753
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0068	0.0056	0.0042	0.0040	0.0038	0.0030	0.0026
Total Grams Sample X 50	0.0600	0.0700	0.0100	0.0100	0.0400	0.0200	0.1300

Analyst: 0
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507459
Sample #: K2507459-027

Client: Alaska Department of Fish and Game
Project: 2025 Kensington Biomonitoring
Sample Matrix: Soil

Sample Name: 2025KGMLSCS3
Date Collected: 7/25/2025
Date Received: 7/29/2025
Date Analyzed: 8/13/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	3.2391	4.8201
V.C. Sand, 1.00 mm (g)	18	4.8861	7.2710
C. Sand, 0.500 mm (g)	35	6.5153	9.6954
M. Sand, 0.250 mm (g)	60	5.5082	8.1967
F. Sand, 0.125 mm (g)	120	1.8698	2.7824
V.F. Sand, 0.0625 mm (g)	230	0.3485	0.5186
S/C <0.0625 mm (g)	Pan	0.0322	0.0479

Sieve Stack:

Total (g) Recov'd	22.3992
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.9360
Grams Beaker (Tare)	110.5022
Grams Gravel/Sand	22.4338

I. Sample Preparation

Grams As Received Sample	32.5460
Percent (%) Solids	67.2
Grams Oven Dried Sample	21.8709

III. Determination of Silt/Clay Fraction

Temperature: 22 Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	34.6708	27.8423	40.7496	28.1859	28.2517	40.4762	28.6000
Grams of Tare	34.6641	27.8361	40.7454	28.1819	28.2487	40.4736	28.5974
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0065	0.0060	0.0040	0.0038	0.0028	0.0024	0.0024
Total Grams Sample X 50	0.0250	0.1000	0.0100	0.0500	0.0200	0.0000	0.1200

Balance ID: K-Balance-58

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 8/13/2025
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507568
Sample #: K2507568-002

Client: <u>Clark County Department of Env</u>	Sample Name: <u>JNS060 (Solid)</u>
Project: <u>LCUS</u>	Date Collected: <u>07/31/25</u>
Sample Matrix: <u>Sediment</u>	Date Received: <u>08/01/25</u>
	Date Analyzed: <u>08/12/25</u>

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.0000	0.0000
V.C. Sand, 1.00 mm (g)	18	0.0690	0.4035
C. Sand, 0.500 mm (g)	35	0.2931	1.7140
M. Sand, 0.250 mm (g)	60	0.7206	4.2140
F. Sand, 0.125 mm (g)	120	1.7554	10.2655
V.F. Sand, 0.0625 mm (g)	230	1.2126	7.0912
S/C <0.0625 mm (g)	Pan	0.3391	1.9830

Sieve Stack:

Total (g) Recov'd	4.3898
Total (%) Recov'd	101

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	114.6931
Grams Beaker (Tare)	110.3302
Grams Gravel/Sand	4.3629

I. Sample Preparation

Grams As Received Sample	33.3520
Percent (%) Solids	17.1
Grams Oven Dried Sample	5.7032

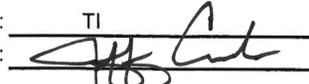
III. Determination of Silt/Clay Fraction

Temperature: **22** Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	30.8531	28.0642	27.9975	41.7721	30.5416	27.7527	28.1775
Grams of Tare	30.8184	28.0381	27.9820	41.7625	30.5363	27.7490	28.1748
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0345	0.0259	0.0153	0.0094	0.0051	0.0035	0.0025
Total Grams Sample X 50	0.4300	0.5300	0.2950	0.2150	0.0800	0.0500	0.1250

Balance ID: K-Balance-59

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 08/12/25
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507568
Sample #: K2507568-002DUP

Client: <u>Clark County Department of Env</u>	Sample Name: <u>JNS060 (Solid)</u>
Project: <u>LCUS</u>	Date Collected: <u>07/31/25</u>
Sample Matrix: <u>Sediment</u>	Date Received: <u>08/01/25</u>
	Date Analyzed: <u>08/12/25</u>

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.0000	0.0000
V.C. Sand, 1.00 mm (g)	18	0.1120	0.6550
C. Sand, 0.500 mm (g)	35	0.3265	1.9094
M. Sand, 0.250 mm (g)	60	0.7018	4.1041
F. Sand, 0.125 mm (g)	120	1.5787	9.2322
V.F. Sand, 0.0625 mm (g)	230	1.1541	6.7491
S/C <0.0625 mm (g)	Pan	0.3016	1.7637

Sieve Stack:

Total (g) Recov'd	4.1747
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	112.1336
Grams Beaker (Tare)	107.9746
Grams Gravel/Sand	4.1590

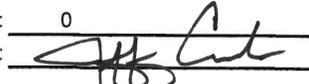
I. Sample Preparation

Grams As Received Sample	39
Percent (%) Solids	17.1
Grams Oven Dried Sample	6.5997

III. Determination of Silt/Clay Fraction

Temperature: 22 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.2286	40.1159	27.5788	27.0106	34.3548	27.1465	27.7361
Grams of Tare	27.1929	40.0869	27.5607	26.9996	34.3500	27.1430	27.7334
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0355	0.0288	0.0179	0.0108	0.0046	0.0033	0.0025
Total Grams Sample X 50	0.3350	0.5450	0.3550	0.3100	0.0650	0.0400	0.1250

Analyst: 0
Reviewed by: 

Date: 08/12/25
Date: 08/15/25

ALS USA, Corp
dba ALS Environmental

Method: **PSEP Particle Size**
Puget Sound Protocol

Service Request #: K2507568
Sample #: K2507568-002TRP

Client: <u>Clark County Department of Env</u>	Sample Name: <u>JNS060 (Solid)</u>
Project: <u>LCUS</u>	Date Collected: <u>07/31/25</u>
Sample Matrix: <u>Sediment</u>	Date Received: <u>08/01/25</u>
	Date Analyzed: <u>08/12/25</u>

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.0000	0.0000
V.C. Sand, 1.00 mm (g)	18	0.0966	0.5649
C. Sand, 0.500 mm (g)	35	0.3224	1.8854
M. Sand, 0.250 mm (g)	60	0.7292	4.2643
F. Sand, 0.125 mm (g)	120	1.5761	9.2170
V.F. Sand, 0.0625 mm (g)	230	1.0663	6.2357
S/C <0.0625 mm (g)	Pan	0.2895	1.6930

Sieve Stack:

Total (g) Recov'd	4.0801
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	114.0438
Grams Beaker (Tare)	109.9613
Grams Gravel/Sand	4.0825

I. Sample Preparation

Grams As Received Sample	33.6530
Percent (%) Solids	17.1
Grams Oven Dried Sample	5.7547

III. Determination of Silt/Clay Fraction

Temperature: 22 Thermometer ID# C65669

	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	27.2774	27.5822	28.8408	26.8718	28.9807	28.8229	27.3834
Grams of Tare	27.2466	27.5570	28.8273	26.8621	28.9753	28.8192	27.3798
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0306	0.0250	0.0133	0.0095	0.0052	0.0035	0.0034
Total Grams Sample X 50	0.2800	0.5850	0.1900	0.2150	0.0850	0.0050	0.1700

Analyst: 0
Reviewed by: 

Date: 08/12/25
Date: 08/15/25

**ALS USA, Corp
dba ALS Environmental**

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K2507746
Sample #: K2507746-002

Client: Clark County Department of Environment	Sample Name: GEE050 (Solid)
Project: LCUS	Date Collected: 8/6/2025
Sample Matrix: Sediment	Date Received: 8/7/2025
	Date Analyzed: 8/12/2025

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.0000	0.0000
V.C. Sand, 1.00 mm (g)	18	0.0799	0.1180
C. Sand, 0.500 mm (g)	35	0.5352	0.7905
M. Sand, 0.250 mm (g)	60	7.8238	11.5566
F. Sand, 0.125 mm (g)	120	8.9757	13.2581
V.F. Sand, 0.0625 mm (g)	230	3.6392	5.3755
S/C <0.0625 mm (g)	Pan	0.4294	0.6343

Sieve Stack:

Total (g) Recov'd	21.4832
Total (%) Recov'd	100

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	129.4039
Grams Beaker (Tare)	107.9429
Grams Gravel/Sand	21.4610

I. Sample Preparation

Grams As Received Sample	34.8439
Percent (%) Solids	67.7
Grams Oven Dried Sample	23.5893

III. Determination of Silt/Clay Fraction

Temperature: 22 Thermometer ID# C65669

Thermometer	4	5	6	7	8	9	10
Total Volume of Sample (mls)	1000	1000	1000	1000	1000	1000	1000
Amount of Dispersant	10	10	10	10	10	10	10
Volume of Aliquot (mls)	20	20	20	20	20	20	20
Grams Sample, Dispersant & Tare	28.0935	31.6010	27.7342	34.3683	27.5832	27.5927	29.0524
Grams of Tare	28.0463	31.5827	27.7239	34.3620	27.5785	27.5889	29.0497
Grams of Dispersant Correction	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Grams of Sample	0.0470	0.0181	0.0101	0.0061	0.0045	0.0036	0.0025
Total Grams Sample X 50	1.4450	0.4000	0.2000	0.0800	0.0450	0.0550	0.1250

Balance ID: K-Balance-59

1% Sodium hexametaphosphate ID: 21-GEN-06-09-G

Analyst: TI
Reviewed by: 

Date: 8/12/2025
Date: 08/15/25

Work Request # K2507459
IV

Date Analyzed: 7-31-25
Analyst: MAS Run # 888233
Analysis: PSEP Sulfide

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|-----------|
| 1. | Is the method name and number correct and appropriate? | yes/no/NA |
| 2. | Holding times met for all analyses and for all samples? | yes/no/NA |
| 3. | Are calculations correct? | yes/no/NA |
| 4. | Is the reporting basis correct? (Dry Weight) | yes/no/NA |
| 5. | All quality control criteria met? | yes/no |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | yes/no/NA |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | yes/no/NA |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | yes/no/NA |
| 9. | Are results for methods blanks all ND? | yes/no/NA |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | yes/no/NA |
| 11. | Are all exceptions explained? | yes/no/NA |
| 12. | Have all applicable service requests been reviewed? | yes/no/NA |
| 13. | Are all samples labeled correctly? | yes/no/NA |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | yes/no/NA |
| 15. | Are detection limits and units reported correctly? | yes/no/NA |
| 16. | Is the unused space on the bench sheet crossed out? | yes/no/NA |
| 17. | Was analysis turned in by the data due date? (If not record SR#) | yes/no/NA |

COMMENTS:

Secondary Approved by: MRL Date: 08/04/25
DQREPORT

Analytical Results Summary

Instrument Name: K-UV-VIS-06

Analyst: MSPECHT

Analysis Lot:

888233

Method/Testcode: PSEP Sulfide/PSEP Sulfide

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2507459-001	Sulfide, Total	N/A		Soil	0.03 mg/L	10.4050 g	1.4 mg/Kg U	1	0.5	1.4			7/31/25 20:50:00	N	IV
K2507459-002	Sulfide, Total	N/A		Soil	0.01 mg/L	10.3590 g	1.3 mg/Kg U	1	0.4	1.3			7/31/25 20:50:00	N	IV
K2507459-003	Sulfide, Total	N/A		Soil	0.01 mg/L	10.4070 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
K2507459-008	Sulfide, Total	N/A		Soil	0.01 mg/L	10.5300 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
K2507459-009	Sulfide, Total	N/A		Soil	0.01 mg/L	10.2350 g	1.7 mg/Kg U	1	0.5	1.7			7/31/25 20:50:00	N	IV
K2507459-010	Sulfide, Total	N/A		Soil	0.01 mg/L	10.9510 g	1.3 mg/Kg U	1	0.4	1.3			7/31/25 20:50:00	N	IV
K2507459-011	Sulfide, Total	N/A		Soil	0.02 mg/L	10.3790 g	1.4 mg/Kg U	1	0.5	1.4			7/31/25 20:50:00	N	IV
K2507459-012	Sulfide, Total	N/A		Soil	0.01 mg/L	10.1550 g	1.4 mg/Kg U	1	0.5	1.4			7/31/25 20:50:00	N	IV
K2507459-013	Sulfide, Total	N/A		Soil	0.01 mg/L	10.1750 g	1.4 mg/Kg U	1	0.5	1.4			7/31/25 20:50:00	N	IV
K2507459-015	Sulfide, Total	N/A		Soil	0.03 mg/L	10.8740 g	1.4 mg/Kg U	1	0.5	1.4			7/31/25 20:50:00	N	IV
K2507459-016	Sulfide, Total	N/A		Soil	0.04 mg/L	10.5300 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
K2507459-017	Sulfide, Total	N/A		Soil	0.04 mg/L	10.0510 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
K2507459-018	Sulfide, Total	N/A		Soil	0.03 mg/L	10.7000 g	1.3 mg/Kg U	1	0.4	1.3			7/31/25 20:50:00	N	IV
K2507459-019	Sulfide, Total	N/A		Soil	0.03 mg/L	10.4910 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
K2507459-020	Sulfide, Total	N/A		Soil	0.04 mg/L	10.4130 g	1.5 mg/Kg U	1	0.5	1.5			7/31/25 20:50:00	N	IV
KQ2513584-01	Sulfide, Total	MB		Soil	0.01 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			7/31/25 20:50:00	N	IV
KQ2513584-02	Sulfide, Total	LCS		Soil	0.30 mg/L	10 g	304 mg/Kg	200	60	200	101		7/31/25 20:50:00	N	IV
KQ2513584-03	Sulfide, Total	MS	K2507459-011	Soil	0.24 mg/L	10.4330 g	340 mg/Kg	200	90	280	80		7/31/25 20:50:00	N	IV
KQ2513584-04	Sulfide, Total	DMS	K2507459-011	Soil	0.25 mg/L	10.1910 g	360 mg/Kg	200	90	290	83	6	7/31/25 20:50:00	N	IV
KQ2513584-05	Sulfide, Total	DUP	K2507459-011	Soil	0.01 mg/L	10.7400 g	1.4 mg/Kg U	1	0.5	1.4		NC	7/31/25 20:50:00	N	IV
KQ2513584-06	Sulfide, Total	TRP	K2507459-011	Soil	0.01 mg/L	10.5930 g	1.4 mg/Kg U	1	0.5	1.4		NC	7/31/25 20:50:00	N	IV
KQ2513621-01	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.464 mg/L	1					7/31/25 20:50:00	N	IV
KQ2513621-02	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.464 mg/L	1					7/31/25 20:50:00	N	IV
KQ2513621-03	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.462 mg/L	1					7/31/25 20:50:00	N	IV
KQ2513621-04	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.463 mg/L	1					7/31/25 20:50:00	N	IV
KQ2513621-05	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			7/31/25 20:50:00	N	IV
KQ2513621-06	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			7/31/25 20:50:00	N	IV
KQ2513621-07	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			7/31/25 20:50:00	N	IV
KQ2513621-08	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			7/31/25 20:50:00	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ALS Environmental

Kelso

SulfidePSEP_7_31_2025_8:50:00_PM

2/2

31-Jul-2025 09:27 PM

Instrument Serial #: 9A5A166041

Method name: PSEP Sulfide 7-31-2025_C

Instrument model: GENESYS 150

Method created: 04-Oct-2022 07:45 AM

Software Package Version: 2.6

Signature:

Method updated: 31-Jul-2025 09:14 PM

Sample	Absorbance(λ)	Concentration [mg/L]
ccv 1	0.134	0.464
ccb 1	0.001	out of range
mb 1	0.005	0.005
lcs 200x 1	0.089	0.304
7459-1 1	0.011	0.025
7459-2 1	0.007	0.013
7459-3 1	0.008	0.014
7459-8 1	0.008	0.014
7459-9 1	0.007	0.012
7459-10 1	0.008	0.014
7459-11 1	0.008	0.016
7459-11dup 1	0.007	0.012
ccv2 1	0.134	0.464
ccb2 1	0.002	out of range
7459-11trip 1	0.007	0.013
7459-11ms 200x 1	0.071	0.240
7459-11msd 200x 1	0.074	0.249
7459-12 1	0.007	0.011
7459-13 1	0.006	0.007
7459-15 1	0.012	0.030
7459-16 1	0.015	0.039
7459-17 1	0.014	0.035
7459-18 1	0.012	0.030
7459-19 1	0.013	0.034
ccv3 1	0.134	0.462
ccb3 1	0.001	out of range
7459-20 1	0.014	0.036
ccv4 1	0.134	0.463
ccb4 1	0.001	out of range

ALS Environmental

Kelso

SulfidePSEP_7_31_2025_8:50:00_PM

1 / 2

31-Jul-2025 09:27 PM

Instrument Serial #: 9A5A166041

Method name: PSEP Sulfide 7-31-2025_C

Instrument model: GENESYS 150

Method created: 04-Oct-2022 07:45 AM

Software Package Version: 2.6

Signature:

Method updated: 31-Jul-2025 09:14 PM

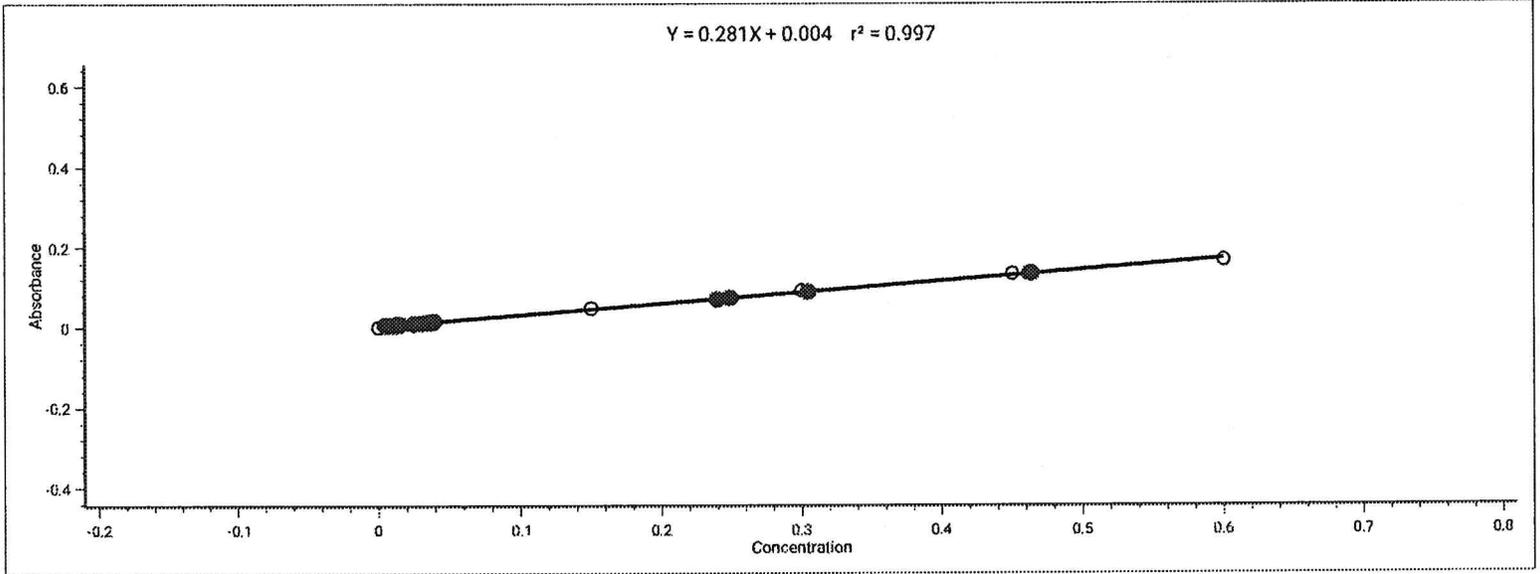
Quant method parameters

Equation **Y = 0.281X + 0.004**

R²: **1.00**

λ **650 nm**

Reference λ



Standard	Absorbance(λ)	Concentration [mg/L]
Standard 1	0.001	out of range
Standard 2	0.010	0.030
Standard 3	0.049	0.150
Standard 4	0.092	0.300
Standard 5	0.133	0.450
Standard 6	0.167	0.600

Calibration Curve Relative Error Evaluation - Inorganics

Method:	PSEP SULFIDE
Run Number:	888233
Instrument:	K-UV-VIS-06
Date:	07/31/25

Instructions:

- 1) Enter slope (a) and intercept (b) from calibration raw data.
- 2) Enter calibration true values (do not include the origin (0,0) as a calibration point).
- 3) Enter the measured response for each calibration point.
- 4) If different than $\pm 10\%$, update the %RE criteria to the method's CCV criteria.
(Note that the low point criteria is $\pm 50\%$ for all methods)
- 5) Reject the calibration if any standard point "Fail".

$$Y = aX + b$$

a =	0.281
b =	0.004

Standard #	True Value	Measured Response	Calculated Concentration	Percent Relative Error (%RE)	%RE Criteria	Pass/Fail
1	0.030	0.010	0.0214	-28.8	50	Pass
2	0.150	0.049	0.1601	6.8	10	Pass
3	0.300	0.092	0.3132	4.4	10	Pass
4	0.450	0.133	0.4591	2.0	10	Pass
5	0.600	0.167	0.5801	-3.3	10	Pass
6					10	
7					10	
8					10	

PSEP Curve		
Amount (mL)	Conc (mg/L)	S2 WSTD (mg/L) 200x dilution
0.00	0.0000	15.00
0.10	0.0300	
0.50	0.1500	
1.00	0.3000	
1.50	0.4500	
2.00	0.6000	

Change WL to 650 nm

CCV S2 mg/L:	3000
--------------	------

CCV Standardization Check	
MI S203 Check 1:	3.54
MI S203 Check 2:	3.49
Avg ml S203:	3.52

ICV Standardization Check	S2 mg/L RPD	(+/- 10%)
MI S203 Check:	3.55	0.5
ICV S2 mg/L:	2986	

ALS ENVIRONMENTAL

Work Order #: K2507459

Analysis: 9030/ 9030M/ AVS/ PSEP

Date Prepared	Sample Name	Initial Wt./Vol.	Final Volume	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
	Lab Code	(g) or (ml)	(ml)			
7-31-25	MB	10.0	50			
	LCS	10.0				
	7459-1	10.405				
	-2	10.359				
	-3	10.407				
	-8	10.530				
	-9	10.235				
	-10	10.951				
	-11	10.379				
	-11dup	10.740				
	-11trip	10.593				
	-11MS	10.433				
	-11MSd	10.191				
	-12	10.155				
	-13	10.175				
	-15	10.874				
	-16	10.530				
	-17	10.051				
	-18	10.700				
	-19	10.491				
	-20	10.413				
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); position: relative; margin: 10px auto;"> </div>						
			N			
			A	MAS		
				7-31-25		

Prepared By: MAS	7-31-25
Analyzed By: MAS	7-31-25
Reviewed By:	08/04/25

Preparation Information Benchsheet

Prep Run#: 461718
 Team: GenChem/MSPECHT
 Number of Copies to make: 1

Prep WorkFlow: GenDistSulfide7
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 7/31/25 18:15

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513584-01	MB		PSEP Sulfide/PSEP Sulfide		Solid	10g	50.00mL	
2	KQ2513584-02	LCS		PSEP Sulfide/PSEP Sulfide		Solid	10g	50.00mL	
3	K2507459-001	2025KGMUJCSP1S1	.03	PSEP Sulfide/PSEP Sulfide		Soil	10.4050g	50.00mL	
4	K2507459-002	2025KGMUJCSP1S2	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.3590g	50.00mL	
5	K2507459-003	2025KGMUJCSP1S3	.03	PSEP Sulfide/PSEP Sulfide		Soil	10.4070g	50.00mL	
6	K2507459-008	2025KGMUSCSP1S1	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.5300g	50.00mL	
7	K2507459-009	2025KGMUSCSP1S2	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.2350g	50.00mL	
8	K2507459-010	2025KGMUSCSP1S3	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.9510g	50.00mL	
9	K2507459-011	2025KGMUSCSP2S1	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.3790g	50.00mL	
10	KQ2513584-05	K2507459-011 DUP	.01	PSEP Sulfide/PSEP Sulfide		Solid	10.7400g	50.00mL	
11	KQ2513584-06	K2507459-011 TRP	.01	PSEP Sulfide/PSEP Sulfide		Solid	10.5930g	50.00mL	
12	KQ2513584-03	K2507459-011 MS	.01	PSEP Sulfide/PSEP Sulfide		Solid	10.4330g	50.00mL	
13	KQ2513584-04	K2507459-011 DMS	.01	PSEP Sulfide/PSEP Sulfide		Solid	10.1910g	50.00mL	
14	K2507459-012	2025KGMUSCSP2S2	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.1550g	50.00mL	
15	K2507459-013	2025KGMUSCSP2S3	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.1750g	50.00mL	
16	K2507459-015	2025KGMLSHSP1S1	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.8740g	50.00mL	
17	K2507459-016	2025KGMLSHSP1S2	.03	PSEP Sulfide/PSEP Sulfide		Soil	10.5300g	50.00mL	
18	K2507459-017	2025KGMLSHSP1S3	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.0510g	50.00mL	
19	K2507459-018	2025KGMUSHS1	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.7000g	50.00mL	
20	K2507459-019	2025KGMUSHS2	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.4910g	50.00mL	
21	K2507459-020	2025KGMUSHS3	.01	PSEP Sulfide/PSEP Sulfide		Soil	10.4130g	50.00mL	

Preparation Steps

Step: Distillation
 Started: 7/31/25 18:15
 Finished: 7/31/25 20:00
 By: MSPECHT
 Comments

Comments: _____

Reviewed By: MAL Date: 08/04/25

Preparation Information Benchsheet

Prep Run#: 461718
Team: GenChem/MSPECHT

Prep WorkFlow: GenDistSulfide7
Prep Method: Method

Status: Prepped
Prep Date/Time: 7/31/25 18:15

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No

ALS Environmental - Laboratory Note Sheet

Service Request Number(s):

K2507459

Sample Number	Initial Volume	Final Volume	Dilution Factor		
LCS	0.125 mL	25 mL	200 X		
7459-11MS	↓	↓	↓		
J - 11MSd	↓	↓	↓		
N A					
MAS 8-4-25					

Comments/Notes:

Analyst: MAS	Date: 7-31-25
Reviewed: MRL	Date: 08/04/25

StarLims Run #: 888233
 Analysis: Sulfide
 Method: PSEP

Al Treated HCl: 24-GEN-05-71L Stock Amine Solution (DPD): 24-GEN-05-99E

Iodine Solution: 24-GEN-05-93B DPD Working Solution: 24-GEN-05-99F

Ferric Chloride: 24-GEN-05-68F

Sodium Hydroxide 0.5N: 24-GEN-05-99D

(CCV) Sodium Thiosulfate 0.025N: 23-GEN-06-33G HCl (6N): 24-GEN-05-86B

(ICV) Sodium Thiosulfate 0.025N: 23-GEN-06-23B

Starch Indicator Solution: 24-GEN-05-87D H2SO4 (50%): 24-GEN-5-68E

Sulfide Stock Standard: 21-GEN-S2/4-3C

Sulfide Working Standard: 21-GEN-S2/4-90BB Curve ID: 21-GEN-S2/4-91B

Equipment: K-HOTBLOCK-03,K-HOTBLOCK-04, K-UV-VIS-06

Pipettes: Ophos-Alfred, TOC-MORPHEUS, TOC-Trinity

Analyzed By: MAS	Date Analyzed: 7/31/2025
Reviewed By: <i>MRL</i>	Date Reviewed: 08/05/25

Work Request # K2507459
IV

Date Analyzed: 8-1-25
Analyst: MAS Run # 888367
Analysis: PSEP Sulfide

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|--|
| 1. | Is the method name and number correct and appropriate? | <input checked="" type="radio"/> yes/no/NA |
| 2. | Holding times met for all analyses and for all samples? | <input checked="" type="radio"/> yes/no/NA |
| 3. | Are calculations correct? | <input checked="" type="radio"/> yes/no/NA |
| 4. | Is the reporting basis correct? (Dry Weight) | <input checked="" type="radio"/> yes/no/NA |
| 5. | All quality control criteria met? | <input checked="" type="radio"/> yes/no |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | <input checked="" type="radio"/> yes/no/NA |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | <input checked="" type="radio"/> yes/no/NA |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | <input checked="" type="radio"/> yes/no/NA |
| 9. | Are results for methods blanks all ND? | <input checked="" type="radio"/> yes/no/NA |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | <input checked="" type="radio"/> yes/no/NA |
| 11. | Are all exceptions explained? | <input checked="" type="radio"/> yes/no/NA |
| 12. | Have all applicable service requests been reviewed? | <input checked="" type="radio"/> yes/no/NA |
| 13. | Are all samples labeled correctly? | <input checked="" type="radio"/> yes/no/NA |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | <input checked="" type="radio"/> yes/no/NA |
| 15. | Are detection limits and units reported correctly? | <input checked="" type="radio"/> yes/no/NA |
| 16. | Is the unused space on the bench sheet crossed out? | <input checked="" type="radio"/> yes/no/NA |
| 17. | Was analysis turned in by the data due date? (If not record SR#) | <input checked="" type="radio"/> yes/no/NA |

COMMENTS:

Secondary Approved by: MRL Date: 08/04/25

DQREPORT

Analytical Results Summary

Instrument Name: K-UV-VIS-06

Analyst: MSPECHT

Analysis Lot:

888367

Method/Testcode: PSEP Sulfide/PSEP Sulfide

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2507459-004	Sulfide, Total	N/A		Soil	0.08 mg/L	10.9000 g	0.5 mg/Kg J	1	0.5	1.4			8/1/25 19:35:00	N	IV
K2507459-005	Sulfide, Total	N/A		Soil	0.10 mg/L	10.4130 g	0.7 mg/Kg J	1	0.5	1.5			8/1/25 19:35:00	N	IV
K2507459-006	Sulfide, Total	N/A		Soil	0.09 mg/L	10.7350 g	0.6 mg/Kg J	1	0.5	1.4			8/1/25 19:35:00	N	IV
K2507459-007	Sulfide, Total	N/A		Soil	0.07 mg/L	10.0520 g	1.5 mg/Kg U	1	0.5	1.5			8/1/25 19:35:00	N	IV
K2507459-014	Sulfide, Total	N/A		Soil	0.05 mg/L	10.6370 g	1.6 mg/Kg U	1	0.5	1.6			8/1/25 19:35:00	N	IV
K2507459-021	Sulfide, Total	N/A		Soil	0.04 mg/L	10.6460 g	1.6 mg/Kg U	1	0.5	1.6			8/1/25 19:35:00	N	IV
K2507459-022	Sulfide, Total	N/A		Soil	0.07 mg/L	10.1280 g	0.6 mg/Kg J	1	0.6	1.7			8/1/25 19:35:00	N	IV
K2507459-023	Sulfide, Total	N/A		Soil	0.06 mg/L	10.5500 g	1.5 mg/Kg U	1	0.5	1.5			8/1/25 19:35:00	N	IV
K2507459-024	Sulfide, Total	N/A		Soil	0.04 mg/L	10.0890 g	1.5 mg/Kg U	1	0.5	1.5			8/1/25 19:35:00	N	IV
K2507459-025	Sulfide, Total	N/A		Soil	0.04 mg/L	10.1060 g	1.5 mg/Kg U	1	0.5	1.5			8/1/25 19:35:00	N	IV
K2507459-026	Sulfide, Total	N/A		Soil	0.04 mg/L	10.4250 g	1.4 mg/Kg U	1	0.5	1.4			8/1/25 19:35:00	N	IV
K2507459-027	Sulfide, Total	N/A		Soil	0.05 mg/L	10.7090 g	1.4 mg/Kg U	1	0.5	1.4			8/1/25 19:35:00	N	IV
KQ2513682-01	Sulfide, Total	MB		Soil	0.03 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			8/1/25 19:35:00	N	IV
KQ2513682-02	Sulfide, Total	LCS		Soil	0.31 mg/L	10 g	307 mg/Kg U	200	60	200	102		8/1/25 19:35:00	N	IV
KQ2513682-03	Sulfide, Total	MS	K2507459-027	Soil	0.30 mg/L	10.0910 g	440 mg/Kg U	200	90	290	99		8/1/25 19:35:00	N	IV
KQ2513682-04	Sulfide, Total	DMS	K2507459-027	Soil	0.29 mg/L	10.1560 g	420 mg/Kg U	200	90	290	96	4	8/1/25 19:35:00	N	IV
KQ2513682-05	Sulfide, Total	DUP	K2507459-027	Soil	0.04 mg/L	10.5460 g	1.4 mg/Kg U	1	0.5	1.4		NC	8/1/25 19:35:00	N	IV
KQ2513682-06	Sulfide, Total	TRP	K2507459-027	Soil	0.05 mg/L	10.4190 g	1.4 mg/Kg U	1	0.5	1.4		NC	8/1/25 19:35:00	N	IV
KQ2513757-01	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.462 mg/L	1					8/1/25 19:35:00	N	IV
KQ2513757-02	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.461 mg/L	1					8/1/25 19:35:00	N	IV
KQ2513757-03	Sulfide, Total	CCV		Soil	0.46 mg/L	10 g	0.463 mg/L	1					8/1/25 19:35:00	N	IV
KQ2513757-04	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			8/1/25 19:35:00	N	IV
KQ2513757-05	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			8/1/25 19:35:00	N	IV
KQ2513757-06	Sulfide, Total	CCB		Soil	0.00 mg/L	10 g	1.0 mg/Kg U	1	0.3	1.0			8/1/25 19:35:00	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ALS Environmental

Kelso

2/2

SulfidePSEP_8_1_2025_7:35:00_PM

01-Aug-2025 08:03 PM

Instrument Serial #: 9A5A166041

Method name: PSEP Sulfide 8-1-2025_C

Instrument model: GENESYS 150

Method created: 04-Oct-2022 07:45 AM

Software Package Version: 2.6

Signature:

Method updated: 01-Aug-2025 07:54 PM

Sample	Absorbance(λ)	Concentration [mg/L]
ccv 1	0.138	0.462
ccb 1	0.001	out of range
mb 1	0.013	0.034
lcs 200x 1	0.093	0.307
7459-4 1	0.025	0.076
7459-5 1	0.032	0.101
7459-6 1	0.028	0.085
7459-7 1	0.022	0.067
7459-14 1	0.019	0.054
7459-21 1	0.014	0.037
7459-22 1	0.024	0.072
7459-23 1	0.021	0.063
ccv2 1	0.138	0.461
ccb2 1	0.001	out of range
7459-24 1	0.016	0.044
7459-25 1	0.013	0.035
7459-26 1	0.014	0.038
7459-27 1	0.016	0.046
7459-27dup 1	0.015	0.041
7459-27trip 1	0.017	0.050
7459-27ms 200x 1	0.090	0.299
7459-27msd 200x 1	0.087	0.289
ccv3 1	0.139	0.463
ccb3 1	0.001	out of range

ALS Environmental

Kelso

1 / 2

SulfidePSEP_8_1_2025_7:35:00_PM

01-Aug-2025 08:03 PM

Method name: PSEP Sulfide 8-1-2025_C

Method created: 04-Oct-2022 07:45 AM

Method updated: 01-Aug-2025 07:54 PM

Instrument Serial #: 9A5A166041

Instrument model: GENESYS 150

Software Package Version: 2.6

Signature:

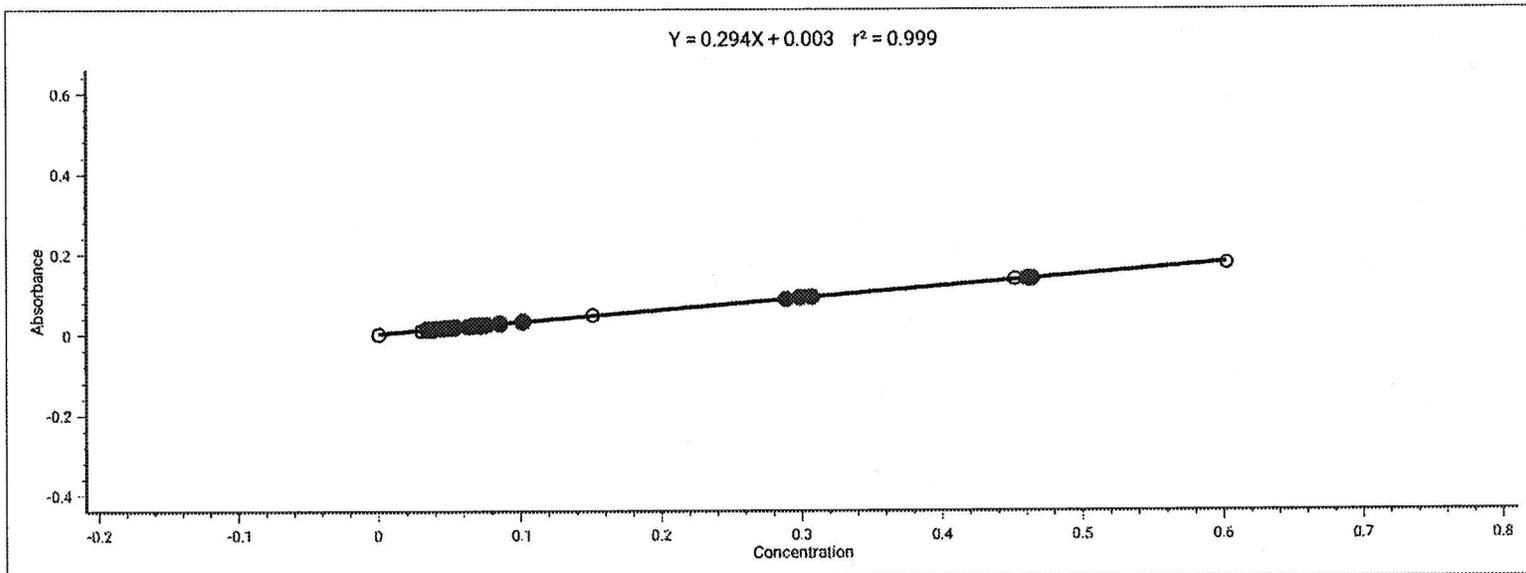
Quant method parameters

Equation **Y = 0.294X + 0.003**

R²: **1.00**

λ **650 nm**

Reference λ



Standard	Absorbance(λ)	Concentration [mg/L]
Standard 1	0.001	out of range
Standard 2	0.010	0.030
Standard 3	0.048	0.151
Standard 4	0.095	0.301
Standard 5	0.138	0.452
Standard 6	0.176	0.602

Calibration Curve Relative Error Evaluation - Inorganics

Method:	PSEP SULFIDE
Run Number:	888367
Instrument:	K-UV-VIS-06
Date:	08/01/25

Instructions:

- 1) Enter slope (a) and intercept (b) from calibration raw data.
- 2) Enter calibration true values (do not include the origin (0,0) as a calibration point).
- 3) Enter the measured response for each calibration point.
- 4) If different than $\pm 10\%$, update the %RE criteria to the method's CCV criteria.
(Note that the low point criteria is $\pm 50\%$ for all methods)
- 5) Reject the calibration if any standard point "Fail".

$$Y = aX + b$$

a =	0.294
b =	0.003

Standard #	True Value	Measured Response	Calculated Concentration	Percent Relative Error (%RE)	%RE Criteria	Pass/Fail
1	0.030	0.010	0.0238	-20.6	50	Pass
2	0.151	0.048	0.1531	1.4	10	Pass
3	0.301	0.095	0.3129	4.0	10	Pass
4	0.452	0.138	0.4592	1.6	10	Pass
5	0.602	0.176	0.5884	-2.3	10	Pass
6					10	
7					10	
8					10	

PSEP Curve		
Amount (mL)	Conc (mg/L)	S2 WSTD (mg/L) 200x dilution
0.00	0.0000	15.05
0.10	0.0301	
0.50	0.1505	
1.00	0.3010	
1.50	0.4515	
2.00	0.6020	

Change WL to 650 nm

CCV S2 mg/L:	3006
--------------	------

CCV Standardization Check	
MI S203 Check 1:	3.5
MI S203 Check 2:	3.50
Avg ml S203:	3.50

ICV Standardization Check	S2 mg/L RPD	(+/- 10%)
MI S203 Check:	3.54	0.5
ICV S2 mg/L:	2990	

ALS ENVIRONMENTAL

Work Order #: K2507459

Analysis: 9030/ 9030M/ AVS/ PSEP

Date Prepared	Sample Name Lab Code	Initial Wt./Vol. (g) or (ml)	Final Volume (ml)	mg/L - mg/kg As Rec'd	% Solids	mg/kg Dry Wt.
8-1-25	MB	10.0	50			
	LCS	10.0				
	7459-4	10.900				
	-5	10.413				
	-6	10.735				
	-7	10.052				
	-14	10.637				
	-21	10.646				
	-22	10.128				
	-23	10.550				
	-24	10.089				
	-25	10.106				
	-26	10.425				
	-27	10.709				
	-27 dup	10.546				
	-27 trip	10.419				
	-27 MS	10.091				
	-27 MSD	10.156				
<p><i>N/A</i></p> <p><i>MAS</i></p> <p><i>8-1-25</i></p>						

Prepared By: <i>MAS</i>	<i>8-1-25</i>
Analyzed By: <i>MAS</i>	<i>8-1-25</i>
Reviewed By: <i>MEL</i>	08/04/25

Preparation Information Benchsheet

Prep Run#: 461765
Team: GenChem/MSPECHT

Prep Workflow: GenDistSulfide7
Prep Method:

Status: Prepped
Prep Date/Time: 8/1/25 17:20

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No

StarLims Run #: 888367
 Analysis: Sulfide
 Method: PSEP

Al Treated HCl: 24-GEN-05-71L Stock Amine Solution (DPD): 24-GEN-05-99E

Iodine Solution: 24-GEN-05-93B DPD Working Solution: 24-GEN-05-99H

Ferric Chloride: 24-GEN-05-68F

Sodium Hydroxide 0.5N: 24-GEN-05-99G

(CCV) Sodium Thiosulfate 0.025N: 23-GEN-06-33G HCl (6N): 24-GEN-05-86B

(ICV) Sodium Thiosulfate 0.025N: 23-GEN-06-23B

Starch Indicator Solution: 24-GEN-05-87D H2SO4 (50%): 24-GEN-5-68E

Sulfide Stock Standard: 21-GEN-S2/4-3C

Sulfide Working Standard: 21-GEN-S2/4-90DD Curve ID: 21-GEN-S2/4-91D

Equipment: K-HOTBLOCK-03,K-HOTBLOCK-04, K-UV-VIS-06

Pipettes: Ophos-Alfred, TOC-MORPHEUS, TOC-Trinity

Analyzed By: MAS	Date Analyzed: 8/1/2025
Reviewed By: <i>MRL</i>	Date Reviewed: 08/04/25

Work Request # K2507459 (001-020)

Date Analyzed: 8/5/25

Analyst: ARM Run # 888547

Analysis: TOC Soil PSEP

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|-----------|
| 1. | Is the method name and number correct and appropriate? | yes/no/NA |
| 2. | Holding times met for all analyses and for all samples? | yes/no/NA |
| 3. | Are calculations correct? | yes/no/NA |
| 4. | Is the reporting basis correct? (Dry Weight) | yes/no/NA |
| 5. | All quality control criteria met? | yes/no |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | yes/no/NA |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | yes/no/NA |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | yes/no/NA |
| 9. | Are results for methods blanks all ND? | yes/no/NA |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | yes/no/NA |
| 11. | Are all exceptions explained? | yes/no/NA |
| 12. | Have all applicable service requests been reviewed? | yes/no/NA |
| 13. | Are all samples labeled correctly? | yes/no/NA |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | yes/no/NA |
| 15. | Are detection limits and units reported correctly? | yes/no/NA |
| 16. | Is the unused space on the benchsheet crossed out? | yes/no/NA |
| 17. | Was analysis turned in by the data due date? (If not record SR#) | yes/no/NA |

COMMENTS:

Final Approved by: MRL Date: 08/05/25

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-06

Analyst: AMCKORNEY

Analysis Lot: 888547

Method/Testcode: PSEP TOC/PSEP TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2507459-001	Carbon, Total Organic (TOC)	N/A		Soil	0.29 Percent	250.3 mg	0.29 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-002	Carbon, Total Organic (TOC)	N/A		Soil	0.76 Percent	250.1 mg	0.76 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-003	Carbon, Total Organic (TOC)	N/A		Soil	0.71 Percent	250.1 mg	0.71 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-004	Carbon, Total Organic (TOC)	N/A		Soil	0.65 Percent	250.3 mg	0.65 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-005	Carbon, Total Organic (TOC)	N/A		Soil	1.15 Percent	250.5 mg	1.15 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-006	Carbon, Total Organic (TOC)	N/A		Soil	0.41 Percent	250.3 mg	0.41 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-007	Carbon, Total Organic (TOC)	N/A		Soil	1.23 Percent	250.2 mg	1.23 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-008	Carbon, Total Organic (TOC)	N/A		Soil	1.01 Percent	250 mg	1.01 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-009	Carbon, Total Organic (TOC)	N/A		Soil	1.27 Percent	250.1 mg	1.27 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-010	Carbon, Total Organic (TOC)	N/A		Soil	0.86 Percent	250 mg	0.86 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-011	Carbon, Total Organic (TOC)	N/A		Soil	0.56 Percent	250 mg	0.56 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-012	Carbon, Total Organic (TOC)	N/A		Soil	1.00 Percent	250 mg	1.00 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-013	Carbon, Total Organic (TOC)	N/A		Soil	0.72 Percent	250.5 mg	0.72 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-014	Carbon, Total Organic (TOC)	N/A		Soil	2.15 Percent	250.1 mg	2.15 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-015	Carbon, Total Organic (TOC)	N/A		Soil	0.34 Percent	250 mg	0.34 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-016	Carbon, Total Organic (TOC)	N/A		Soil	0.38 Percent	250.3 mg	0.38 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-017	Carbon, Total Organic (TOC)	N/A		Soil	0.35 Percent	250.7 mg	0.35 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-018	Carbon, Total Organic (TOC)	N/A		Soil	0.35 Percent	250 mg	0.35 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-019	Carbon, Total Organic (TOC)	N/A		Soil	0.32 Percent	250.4 mg	0.32 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
K2507459-020	Carbon, Total Organic (TOC)	N/A		Soil	0.27 Percent	250 mg	0.27 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV
KQ2513780-01	Carbon, Total Organic (TOC)	LCS		Soil	3.03 Percent	250.1 mg	3.03 Percent	1	0.005	0.10	101		8/5/25 09:39:38	N	IV
KQ2513780-02	Carbon, Total Organic (TOC)	MB		Soil	0.01 Percent	250 mg	0.006 Percent	J 1	0.005	0.10			8/5/25 09:39:38	N	IV
KQ2513780-03	Carbon, Total Organic (TOC)	SRM		Soil	3.02 Percent	250 mg	3.02 Percent	1	0.005	0.10			8/5/25 09:39:38	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-06

Analyst: AMCKORNEY

Analysis Lot:

888547

Method/Testcode: PSEP TOC/PSEP TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2513780-04	Carbon, Total Organic (TOC)	DUP	K2507459-001	Soil	0.29 Percent	250.4 mg	0.29 Percent	1	0.005	0.10		<1	8/5/25 09:39:38	N	IV
KQ2513780-05	Carbon, Total Organic (TOC)	TRP	K2507459-001	Soil	0.29 Percent	250.6 mg	0.29 Percent	1	0.005	0.10		<1	8/5/25 09:39:38	N	IV
KQ2513780-06	Carbon, Total Organic (TOC)	MS	K2507459-001	Soil	2.63 Percent	125.2 mg	2.63 Percent	1	0.005	0.10	97		8/5/25 09:39:38	N	IV
KQ2513780-07	Carbon, Total Organic (TOC)	DMS	K2507459-001	Soil	2.62 Percent	125 mg	2.62 Percent	1	0.005	0.10	97	<1	8/5/25 09:39:38	N	IV
KQ2513782-01	Carbon, Total Organic (TOC)	CCV		Soil	11.90 Percent	25.1 mg	11.9 Percent	1			99%		8/5/25 09:39:38	N	IV
KQ2513782-02	Carbon, Total Organic (TOC)	CCV		Soil	12.06 Percent	25.1 mg	12.1 Percent	1			101%		8/5/25 09:39:38	N	IV
KQ2513782-03	Carbon, Total Organic (TOC)	CCV		Soil	12.11 Percent	25.1 mg	12.1 Percent	1			101%		8/5/25 09:39:38	N	IV
KQ2513782-04	Carbon, Total Organic (TOC)	CCV		Soil	12.05 Percent	25.1 mg	12.1 Percent	1			100%		8/5/25 09:39:38	N	IV
KQ2513782-05	Carbon, Total Organic (TOC)	CCB		Soil	0.01 Percent	250 mg	0.007 Percent J	1	0.005	0.10			8/5/25 09:39:38	N	IV
KQ2513782-06	Carbon, Total Organic (TOC)	CCB		Soil	0.01 Percent	250 mg	0.006 Percent J	1	0.005	0.10			8/5/25 09:39:38	N	IV
KQ2513782-07	Carbon, Total Organic (TOC)	CCB		Soil	0.01 Percent	250 mg	0.007 Percent J	1	0.005	0.10			8/5/25 09:39:38	N	IV
KQ2513782-08	Carbon, Total Organic (TOC)	CCB		Soil	0.01 Percent	250 mg	0.006 Percent J	1	0.005	0.10			8/5/25 09:39:38	N	IV

Adam 8/5/25

‡ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

aj-analyzer multi EA 4000; multiWin 5.7; Serial number: N4-0587/AW
 multiWin 5.7.1.0
 % TOTAL ORGANIC CARBON (K-TOC-06)

AnalysisGroup

AnalysisGroup: % TOC 2025A

Remark: EPA 9060 - Total Organic Carbon (K-TOC-06)

Created on: 2/7/2025 2:20:53 PM

Last modification: 8/5/2025 1:48:00 PM

State: solid

Analysis name	Result	Sample quantity	Time of analysis	Remark
CCV	TC: 11.90% <i>99%</i>	25.100mg	8/5/2025 9:39:38 AM	
CCB	TC: 0.0071%	250.000mg	8/5/2025 9:46:43 AM	TC: Out of the calibrated ranges
LCS	TC: 3.03% <i>101%</i>	250.100mg	8/5/2025 9:52:53 AM	
MB	TC: 0.0061%	250.000mg	8/5/2025 10:00:15 AM	TC: Out of the calibrated ranges
SRM	TC: 3.02% <i>101%</i>	250.000mg	8/5/2025 10:06:25 AM	
K2507459-001	TC: 0.29%	250.300mg	8/5/2025 10:13:46 AM	
K2507459-001D	TC: 0.29%	250.400mg	8/5/2025 10:21:10 AM	
K2507459-001TR	TC: 0.29%	250.600mg	8/5/2025 10:29:00 AM	
K2507459-001MS	TC: 2.63%	125.200mg	8/5/2025 10:36:55 AM	
K2507459-001MSD	TC: 2.62%	125.000mg	8/5/2025 10:43:52 AM	
K2507459-002	TC: 0.76%	250.100mg	8/5/2025 10:51:21 AM	
K2507459-003	TC: 0.71%	250.100mg	8/5/2025 10:58:49 AM	
CCV	TC: 12.06% <i>101%</i>	25.100mg	8/5/2025 11:06:12 AM	
CCB	TC: 0.0061%	250.000mg	8/5/2025 11:13:14 AM	TC: Out of the calibrated ranges
K2507459-004	TC: 0.65%	250.300mg	8/5/2025 11:19:23 AM	
K2507459-005	TC: 1.15%	250.500mg	8/5/2025 11:27:01 AM	
K2507459-006	TC: 0.41%	250.300mg	8/5/2025 11:34:20 AM	
K2507459-007	TC: 1.23%	250.200mg	8/5/2025 11:41:13 AM	
K2507459-008	TC: 1.01%	250.000mg	8/5/2025 11:48:06 AM	
K2507459-009	TC: 1.27%	250.100mg	8/5/2025 11:55:48 AM	
K2507459-010	TC: 0.86%	250.000mg	8/5/2025 12:03:04 PM	
K2507459-011	TC: 0.56%	250.000mg	8/5/2025 12:09:55 PM	
K2507459-012	TC: 1.00%	250.000mg	8/5/2025 12:17:36 PM	

ARL 8/5/25

aj-analyzer multi EA 4000; multiWin 5.7; Serial number: N4-0587/AW
 multiWin 5.7.1.0
 % TOTAL ORGANIC CARBON (K-TOC-06)

AnalysisGroup

AnalysisGroup: % TOC 2025A

Analysis name	Result	Sample quantity	Time of analysis	Remark
K2507459-013	TC: 0.72%	250.500mg	8/5/2025 12:24:41 PM	
CCV	TC: 12.11% <i>101%</i>	25.100mg	8/5/2025 12:31:49 PM	
CCB	TC: 0.0066%	250.000mg	8/5/2025 12:38:57 PM	TC: Out of the calibrated ranges
K2507459-014	TC: 2.15%	250.100mg	8/5/2025 12:45:07 PM	
K2507459-015	TC: 0.34%	250.000mg	8/5/2025 12:51:46 PM	
K2507459-016	TC: 0.38%	250.300mg	8/5/2025 12:58:45 PM	
K2507459-017	TC: 0.35%	250.700mg	8/5/2025 1:05:59 PM	
K2507459-018	TC: 0.35%	250.000mg	8/5/2025 1:13:49 PM	
K2507459-019	TC: 0.32%	250.400mg	8/5/2025 1:21:07 PM	
K2507459-020	TC: 0.27%	250.000mg	8/5/2025 1:28:00 PM	
CCV	TC: 12.05% <i>100%</i>	25.100mg	8/5/2025 1:34:52 PM	
CCB	TC: 0.0061%	250.000mg	8/5/2025 1:41:59 PM	TC: Out of the calibrated ranges

ATSM 8/5/25

Service Request: K2507459

Method: 9060 TOC Modified

Date Weighed: 8/5/2025

Analysis: Total Organic Carbon in Soil

Analyst: AEM

Prep Run / Run # 461643 / 888547

Sample Position	Sample ID	Weight (mg)
1	Clean	NA
2	CCV	25.1
3	CCB	250.0
4	LCS	250.1
5	MB	250.0
6	SRM	250.0
7	K2507459-001	250.3
8	K2507459-001D	250.4
9	K2507459-001TR	250.6
10	K2507459-001MS	125.2
11	K2507459-001MSD	125.0
12	K2507459-002	250.1
13	K2507459-003	250.1
14	CCV	25.1
15	CCB	250.0
16	K2507459-004	250.3
17	K2507459-005	250.5
18	K2507459-006	250.3
19	K2507459-007	250.2
20	K2507459-008	250.0
21	K2507459-009	250.1
22	K2507459-010	250.0
23	K2507459-011	250.0
24	K2507459-012	250.0

Sample Position	Sample ID	Weight (mg)
25	K2507459-013	250.5
26	CCV	25.1
27	CCB	250.0
28	K2507459-014	250.1
29	K2507459-015	250.0
30	K2507459-016	250.3
31	K2507459-017	250.7
32	K2507459-018	250.0
33	K2507459-019	250.4
34	K2507459-020	250.0
35	CCV	25.1
36	CCB	250.0
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		

MS CaCO3 (mg)	K2507459-001MS	25.1
MSD CaCO3 (mg)	K2507459-001MSD	25.0

AEM 8/5/25

Aliquot Drying Oven ID (70° C): K-OVEN-17
 Acidifying Oven ID (70° C): K-OVEN-11
 Thermometer ID for K-OVEN-11: TOC 0428

Balance ID: K-BALANCE-38
 10% HCL ID: 19-GEN-12-11-M, Exp: 11/30/25

CCV: CaCO3, JT Baker, ID: 19-GEN-13-71-A, Lot # 228036, Exp: 2/20/26, TV = 12.0 % C
 LCS/SRM: NIST SRM, Lot # 1941b, Organics in Marine Sediment, ID: 19-GEN-13-97-J, Exp: 9/14/32, TV = 2.99 % TOC

aj-analyzer multi EA 4000; multiWin 5.7; Serial number: N4-0587/AW
 multiWin 5.7.1.0
 % TOTAL ORGANIC CARBON (K-TOC-06)

Calibration QC Check
 K-TOC-06

AnalysisGroup

AnalysisGroup: % TOC 2024b
Remark: EPA 9060 - Total Organic Carbon (K-TOC-06)
Created on: 11/8/2024 12:47:03 PM
Last modification: 12/27/2024 6:19:39 PM
State: solid

Analysis name	Result	Sample quantity	Time of analysis	Remark
ICV - 25 mg, 12% C	TC: 11.95%	25.300mg 100%	12/27/2024 4:42:16 PM	
ICV - 100 mg, 12% C	TC: 11.97%	100.300mg 100%	12/27/2024 4:49:24 PM	
ICB	TC: 0.0060%	250.000mg	12/27/2024 4:56:42 PM	TC: Out of the calibrated ranges
CCV - 12% C	TC: 11.95%	25.100mg 100%	12/27/2024 5:02:40 PM	
CCB	TC: 0.0060%	250.000mg	12/27/2024 5:09:51 PM	TC: Out of the calibrated ranges
LCS - 2.99% TOC	TC: 3.07%	250.400mg 103%	12/27/2024 5:15:51 PM	
DLCS - 2.99% TOC	TC: 3.02%	250.900mg 101%	12/27/2024 5:23:18 PM	
MB	TC: 0.0069%	250.000mg	12/27/2024 5:47:57 PM	TC: Out of the calibrated ranges
LOO - 0.1% C (K2413027-7)	TC: 0.10%	251.700mg 100%	12/27/2024 5:54:13 PM	
LOD - 0.01% C (K2413026-7)	TC: 0.015%	255.100mg	12/27/2024 6:00:32 PM	
CCV - 12% C	TC: 11.81%	25.300mg 98%	12/27/2024 6:06:38 PM	
CCB	TC: 0.0070%	250.000mg	12/27/2024 6:13:41 PM	TC: Out of the calibrated ranges

ICV : 19-GEN-13-94-A
 CCV : 19-GEN-13-71-A
 LCS : 19-GEN-13-97-J
 LOO : 19-GEN-12-9-N
 LOD : 19-GEN-12-9-M

LCS/DLCS/MB : Acidified w/10% HCL (19-GEN-12-9-F)

DAB 12/27/24

K-TOC-06

Method

Method: TOC by Manual Acidification - 12/27/24 **Version 3**

Created on: 12/27/2024 10:41:37 AM **of:** User
Last modification: 12/27/2024 2:34:38 PM **of:** User

Status: authorized
State: solid
Furnace: Ceramic tube (CS) - horizontal

Remark: K-TOC-06 Calibration

Determinations:
Determinations: 1 - 1
Calculation algorithm: Conc_solid_EA4000_%
Operands:
Weight: 1mg

Process:
FPG: EA4000 (Default)
Furnace temperature: 1100°C

Detection:

	TC
Detector	C_C201
Maximum integration time	600s
Stability	3
Start	0.12ppm
Threshold	5ppm

CalibrationData:

Calibration parameters TC		[CR1]575AU - 35,964AU	[CR2]35,964AU - 3,230,061AU
Type		Measurement	Measurement
Linked on		12/27/2024	12/27/2024
Name		Cal_TOC by Manual Acidification - 12/27/24_20241227_133730	Cal_TOC by Manual Acidification - 12/27/24_20241227_111341
Regression	Type	linear	linear
	K0	1.498e+1	1.087e+2
	K1	7.964e-3	7.4e-3
Daily factor		1	1
	Type	Default	Default
	Date	12/27/2024	12/27/2024

DAB 12/27/24

K-TOC-06

Calibration

Calibration: Cal_TOC by Manual Acidification - 12/27/24_20241227_111341 Version 1

Calibration of: 12/27/2024 11:20:22 AM of: User
 Last modification: 12/27/2024 12:25:13 PM of: User
 Type: Constant concentration

Calibration parameters TC

Linear regression: $c*m = 7.4e-3*I + 1.087e+2$
 K0: 1.087e+2
 K1: 7.4e-3
 Calibration range: 25,845AU - 3,230,061AU

Residual standard deviation: 16,921AU Linearity: linear
 Method standard deviation: 125.24193 Variance homogeneity: non homogeneous
 Method variation coefficient: 1.42502% Detection limit: 255.26µg
 Quality of replicates: 0.99984 Identification limit: 510.51µg
 Correlation coefficient: 0.99992 Quantification limit: 941.47µg

Constant concentration: 12.00%

Measuring points	Rep.	Operands	I-net	c-act.	c-delta	Blank value
1	1/1	Weight: 2.500mg	35,787AU	14.94%	24.5%	0.000AU
2	1/1	Weight: 4.900mg	72,424AU	13.16%	9.64%	0.000AU
3	1/1	Weight: 10.000mg	152,832AU	12.40%	3.31%	0.000AU
4	1/1	Weight: 15.000mg	232,747AU	12.21%	1.73%	0.000AU
5	1/1	Weight: 25.000mg	387,619AU	11.91%	-0.76%	0.000AU
6	1/1	Weight: 50.000mg	776,814AU	11.71%	-2.38%	0.000AU
7	1/1	Weight: 100.000mg	1,576,282AU	11.77%	-1.89%	0.000AU
8	1/1	Weight: 149.900mg	2,443,747AU	12.14%	1.14%	0.000AU
9	1/1	Weight: 175.000mg	2,822,431AU	12.00%	-0.02%	0.000AU
10	1/1	Weight: 200.100mg	3,228,727AU	12.00%	-0.04%	0.000AU

Raw integrals	1
1	35,787AU
2	72,424AU
3	152,832AU
4	232,747AU
5	387,619AU
6	776,814AU

Calcium Carbonate ID: 23-GEN-06-19-B
 (TV = 12% C)

DAB 12/27/24

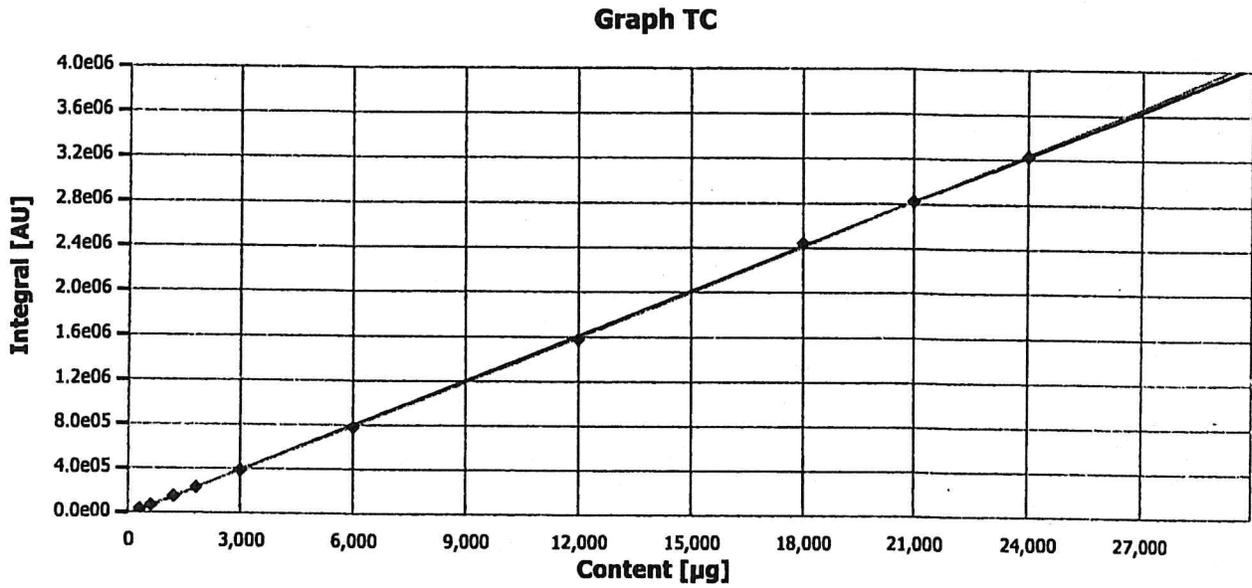
Calibration

Calibration:

Cal_TOC by Manual Acidification - 12/27/24_20241227_111341

Version 1

Raw integrals	1
7	1,576,282AU
8	2,443,747AU
9	2,822,431AU
10	3,228,727AU



DAB 12/27/24

K-TOC-06

Calibration

Calibration: Cal_TOC by Manual Acidification - 12/27/24_20241227_133730 Version 1

Calibration of: 12/27/2024 1:43:25 PM of: User
 Last modification: 12/27/2024 2:31:09 PM of: User
 Type: Constant concentration

Calibration parameters TC

Linear regression: $c*m = 7.964e-3*I+1.498e+1$
 K0: 1.498e+1
 K1: 7.964e-3
 Calibration range: 575AU - 35,964AU

Residual standard deviation: 1,148AU Linearity: linear
 Method standard deviation: 9.21055 Variance homogeneity: non homogeneous
 Method variation coefficient: 6.37739% Detection limit: 21.39µg
 Quality of replicates: 0.99265 Identification limit: 42.78µg
 Correlation coefficient: 0.99632 Quantification limit: 73.98µg

Constant concentration: 0.100%

Measuring points	Rep.	Operands	I-net	c-act.	c-delta	Blank value
1	1/1	Weight: 25.500mg	575AU	0.077%	-23.3%	0.000AU
2	1/1	Weight: 50.600mg	3,852AU	0.090%	-9.76%	0.000AU
3	1/1	Weight: 75.300mg	9,153AU	0.12%	16.7%	0.000AU
4	1/1	Weight: 100.700mg	9,919AU	0.093%	-6.68%	0.000AU
5	1/1	Weight: 150.500mg	17,861AU	0.10%	4.47%	0.000AU
6	1/1	Weight: 200.600mg	24,628AU	0.11%	5.24%	0.000AU
7	1/1	Weight: 250.800mg	29,147AU	0.099%	-1.47%	0.000AU
8	1/1	Weight: 301.400mg	34,893AU	0.097%	-2.83%	0.000AU

Raw integrals	1
1	575AU
2	3,852AU
3	9,153AU
4	9,919AU
5	17,861AU
6	24,628AU
7	29,147AU
8	34,893AU

KHP ID: 19-GEN-12-10-M
 (TV = 0.1% C)

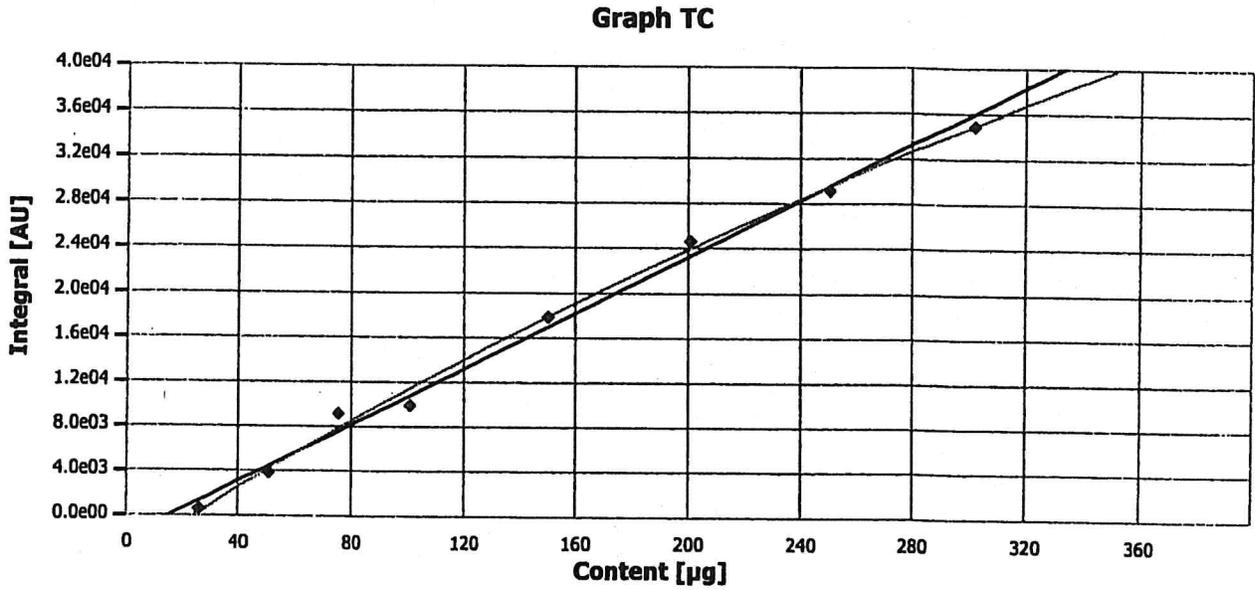
DAB 12/27/24

Calibration

Calibration:

Cal_TOC by Manual Acidification - 12/27/24_20241227_133730

Version 1



DAB 12/27/24

Work Request # K2507459 (021-077), K2507473, K2507523,
K2507568
 Date Analyzed: 8/6/25
 Analyst: AEM Run # 888661
 Analysis: TOC soil PSEP

**DATA QUALITY REPORT
 INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|-----------|
| 1. | Is the method name and number correct and appropriate? | yes/no/NA |
| 2. | Holding times met for all analyses and for all samples? | yes/no/NA |
| 3. | Are calculations correct? | yes/no/NA |
| 4. | Is the reporting basis correct? (Dry Weight) | yes/no/NA |
| 5. | All quality control criteria met? | yes/no |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | yes/no/NA |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | yes/no/NA |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | yes/no/NA |
| 9. | Are results for methods blanks all ND? | yes/no/NA |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | yes/no/NA |
| 11. | Are all exceptions explained? | yes/no/NA |
| 12. | Have all applicable service requests been reviewed? | yes/no/NA |
| 13. | Are all samples labeled correctly? | yes/no/NA |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | yes/no/NA |
| 15. | Are detection limits and units reported correctly? | yes/no/NA |
| 16. | Is the unused space on the benchsheet crossed out? | yes/no/NA |
| 17. | Was analysis turned in by the data due date? (If not record SR#) | yes/no/NA |

COMMENTS:

Final Approved by: MRL Date: 08/06/25
 DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-04

Analyst: AMCKORNEY

Analysis Lot:

888661

Method/Testcode: PSEP TOC/PSEP TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2507459-021	Carbon, Total Organic (TOC)	N/A		Soil	3.79 Percent	150.4 mg	3.79 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-022	Carbon, Total Organic (TOC)	N/A		Soil	0.99 Percent	250.4 mg	0.99 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-023	Carbon, Total Organic (TOC)	N/A		Soil	0.68 Percent	250 mg	0.68 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-024	Carbon, Total Organic (TOC)	N/A		Soil	0.53 Percent	250.9 mg	0.53 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-025	Carbon, Total Organic (TOC)	N/A		Soil	0.63 Percent	250 mg	0.63 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-026	Carbon, Total Organic (TOC)	N/A		Soil	0.44 Percent	250.5 mg	0.44 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507459-027	Carbon, Total Organic (TOC)	N/A		Soil	0.50 Percent	250 mg	0.50 Percent	1	0.005	0.10			8/6/25 08:04:08	N	IV
K2507473-003	Carbon, Total Organic (TOC)	N/A		Sediment	0.50 Percent	250 mg	0.50 Percent	1	0.005	0.10			8/6/25 08:04:08	N	II
K2507473-004	Carbon, Total Organic (TOC)	N/A		Sediment	12.61 Percent	100.6 mg	12.6 Percent	1	0.005	0.10			8/6/25 08:04:08	N	II
K2507523-002	Carbon, Total Organic (TOC)	N/A		Sediment	2.98 Percent	250 mg	2.98 Percent	1	0.005	0.10			8/6/25 08:04:08	N	II
K2507568-002	Carbon, Total Organic (TOC)	N/A		Sediment	13.25 Percent	100 mg	13.3 Percent	1	0.005	0.10			8/6/25 08:04:08	N	II
KQ2513841-01	Carbon, Total Organic (TOC)	LCS		Sediment	2.96 Percent	250.5 mg	2.96 Percent	1	0.005	0.10	99		8/6/25 08:04:08	N	II
KQ2513841-02	Carbon, Total Organic (TOC)	MB		Sediment	0.00 Percent	250 mg	0.10 Percent U	1	0.005	0.10			8/6/25 08:04:08	N	II
KQ2513841-03	Carbon, Total Organic (TOC)	SRM		Sediment	2.95 Percent	250.1 mg	2.95 Percent	1	0.005	0.10			8/6/25 08:04:08	N	II
KQ2513841-04	Carbon, Total Organic (TOC)	DUP	K2507473-003	Sediment	0.49 Percent	250 mg	0.49 Percent	1	0.005	0.10		2	8/6/25 08:04:08	N	II
KQ2513841-05	Carbon, Total Organic (TOC)	TRP	K2507473-003	Sediment	0.49 Percent	250.5 mg	0.49 Percent	1	0.005	0.10		1	8/6/25 08:04:08	N	II
KQ2513841-06	Carbon, Total Organic (TOC)	MS	K2507473-003	Sediment	2.84 Percent	125.8 mg	2.84 Percent	1	0.005	0.10	97		8/6/25 08:04:08	N	II
KQ2513841-07	Carbon, Total Organic (TOC)	DMS	K2507473-003	Sediment	2.84 Percent	125.2 mg	2.84 Percent	1	0.005	0.10	96	1	8/6/25 08:04:08	N	II
KQ2513843-01	Carbon, Total Organic (TOC)	CCV		Soil	11.74 Percent	25 mg	11.7 Percent	1			98%		8/6/25 08:04:08	N	IV
KQ2513843-02	Carbon, Total Organic (TOC)	CCV		Soil	11.81 Percent	25.3 mg	11.8 Percent	1			98%		8/6/25 08:04:08	N	IV
KQ2513843-03	Carbon, Total Organic (TOC)	CCV		Soil	11.81 Percent	25.2 mg	11.8 Percent	1			98%		8/6/25 08:04:08	N	IV
KQ2513843-04	Carbon, Total Organic (TOC)	CCB		Soil	0.00 Percent	250 mg	0.10 Percent U	1	0.005	0.10			8/6/25 08:04:08	N	IV
KQ2513843-05	Carbon, Total Organic (TOC)	CCB		Soil	0.00 Percent	250 mg	0.10 Percent U	1	0.005	0.10			8/6/25 08:04:08	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ARM 8/6/25

Analytical Results Summary

Instrument Name: K-TOC-04

Analyst: AMCKORNEY

Analysis Lot: 888661 **Method/Testcode:** PSEP TOC/PSEP TOC T

<u>Lab Code</u>	<u>Target Analytes</u>	<u>QC</u>	<u>Parent Sample</u>	<u>Matrix</u>	<u>Raw Result</u>	<u>Sample Amt.</u>	<u>Final Result</u>	<u>Dil</u>	<u>MDL</u>	<u>PQL</u>	<u>% Rec</u>	<u>% RSD</u>	<u>Date Analyzed</u>	<u>QC?</u>	<u>Tier</u>
KQ2513843-06	Carbon, Total Organic (TOC)	CCB		Soil	0.00 Percent	250 mg	0.10 Percent U	1	0.005	0.10			8/6/25 08:04:08	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

aj-analyzer multi EA 4000; multiWin 5.5; Serial number: N4-138/M
 % TOTAL ORGANIC CARBON (K-TOC-04)

AnalysisGroup

AnalysisGroup: % TOC 2025B

Remark: EPA 9060 - Total Organic Carbon (K-TOC-04)

Created on: 5/23/2025 1:58:14 PM

Last modification: 8/6/2025 11:49:40 AM

State: solid

Analysis name	Result	Sample quantity	Time of analysis	Remark
CCV	TC: 11.74% <i>98%</i>	25.000mg	8/6/2025 8:04:08 AM	
CCB	TC: 0.00000%	250.000mg	8/6/2025 8:13:06 AM	TC: Out of the calibrated ranges
LCS	TC: 2.96% <i>99%</i>	250.500mg	8/6/2025 8:19:48 AM	
MB	TC: 0.00000%	250.000mg	8/6/2025 8:29:57 AM	TC: Out of the calibrated ranges
SRM	TC: 2.95% <i>99%</i>	250.100mg	8/6/2025 8:36:47 AM	
K2507459-021	TC: 3.79%	150.400mg	8/6/2025 8:46:40 AM	
K2507459-022	TC: 0.99%	250.400mg	8/6/2025 8:55:53 AM	
K2507459-023	TC: 0.68%	250.000mg	8/6/2025 9:05:49 AM	
K2507459-024	TC: 0.53%	250.900mg	8/6/2025 9:16:14 AM	
K2507459-025	TC: 0.63%	250.000mg	8/6/2025 9:27:39 AM	
K2507459-026	TC: 0.44%	250.500mg	8/6/2025 9:38:03 AM	
K2507459-027	TC: 0.50%	250.000mg	8/6/2025 9:47:53 AM	
CCV	TC: 11.81% <i>98%</i>	25.300mg	8/6/2025 9:58:25 AM	
CCB	TC: 0.00000%	250.000mg	8/6/2025 10:07:34 AM	TC: Out of the calibrated ranges
K2507473-003	TC: 0.50%	250.000mg	8/6/2025 10:14:57 AM	
K2507473-003D	TC: 0.49%	250.000mg	8/6/2025 10:24:00 AM	
K2507473-003TR	TC: 0.49%	250.500mg	8/6/2025 10:33:01 AM	
K2507473-003MS	TC: 2.84%	125.800mg	8/6/2025 10:42:05 AM	
K2507473-003MSD	TC: 2.84%	125.200mg	8/6/2025 10:50:59 AM	
K2507473-004	TC: 12.61%	100.600mg	8/6/2025 11:00:04 AM	
K2507523-002	TC: 2.98%	250.000mg	8/6/2025 11:12:56 AM	
K2507568-002	TC: 13.25%	100.000mg	8/6/2025 11:22:25 AM	
CCV	TC: 11.81% <i>98%</i>	25.200mg	8/6/2025 11:33:21 AM	
CCB	TC: 0.00000%	250.000mg	8/6/2025 11:42:09 AM	TC: Out of the calibrated ranges

AKun 8/6/25

Service Request: K2507459, K2507473, K2507523, K2507568

Method: 9060 TOC Modified

Date Weighed: 8/5/2025

Analysis: Total Organic Carbon in Soil

Analyst: AEM

Prep Run / Run # 461775 / 888661

Sample Position	Sample ID	Weight (mg)
1	Clean	NA
2	CCV	25.0
3	CCB	250.0
4	LCS	250.5
5	MB	250.0
6	SRM	250.1
7	K2507459-021 *	150.4
8	K2507459-022	250.4
9	K2507459-023	250.0
10	K2507459-024	250.9
11	K2507459-025	250.0
12	K2507459-026	250.5
13	K2507459-027	250.0
14	CCV	25.3
15	CCB	250.0
16	K2507473-003	250.0
17	K2507473-003D	250.0
18	K2507473-003TR	250.5
19	K2507473-003MS	25.8
20	K2507473-003MSD	125.2
21	K2507473-004 *	100.6
22	K2507523-002	250.0
23	K2507568-002 *	100.0
24	CCV	25.2

Sample Position	Sample ID	Weight (mg)
25	CCB	250.0
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		

* - High organic content
AEM 8/5/25

MS CaCO3 (mg)	K2507473-003MS	25.4
MSD CaCO3 (mg)	K2507473-003MSD	25.4

Aliquot Drying Oven ID (70° C): K-OVEN-17

Balance ID: K-BALANCE-38

Acidifying Oven ID (70° C): K-OVEN-11

10% HCL ID: 19-GEN-12-11-M, Exp: 11/30/25

Thermometer ID for K-OVEN-11: TOC 0428

CCV: CaCO3, JT Baker, ID: 19-GEN-13-71-A, Lot # 228036, Exp: 2/20/26, TV = 12.0 % C

LCS/SRM: NIST SRM, Lot # 1941b, Organics in Marine Sediment, ID: 19-GEN-13-97-J, Exp: 9/14/32, TV = 2.99 % TOC

aj-analyzer multi EA 4000; multiWin 5.5; Serial number: N4-138/M
 % TOTAL ORGANIC CARBON (K-TOC-04)

Calibration QC Check
 K-TOC-04

AnalysisGroup

AnalysisGroup: % TOC 2025A
Remark: EPA 9060 - Total Organic Carbon (K-TOC-04)
Created on: 1/3/2025 7:53:57 AM
Last modification: 5/9/2025 4:58:17 PM
State: solid

Analysis name	Result	Sample quantity	Time of analysis	Remark
ICV - 25 mg	TC: 11.92%	25.200mg 99%	5/9/2025 3:14:35 PM	
ICV - 100 mg	TC: 11.69%	100.000mg 97%	5/9/2025 3:23:29 PM	
ICB	TC: 0.00000%	250.000mg	5/9/2025 3:33:25 PM	TC: Out of the calibrated ranges
CCV	TC: 11.98%	25.000mg 100%	5/9/2025 3:40:20 PM	
CCB	TC: 0.00000%	250.000mg	5/9/2025 3:49:42 PM	TC: Out of the calibrated ranges
LCS	TC: 3.13%	250.500mg 105%	5/9/2025 3:56:59 PM	
DLCS	TC: 3.07%	250.400mg 103%	5/9/2025 4:07:58 PM	
MB	TC: 0.00000%	250.000mg	5/9/2025 4:18:26 PM	TC: Out of the calibrated ranges
LOQ - 0.1% C	TC: 0.10%	251.000mg 100%	5/9/2025 4:25:32 PM	
LOD - 0.01% C	TC: 0.011%	251.100mg 110%	5/9/2025 4:33:55 PM	
CCV	TC: 12.00%	25.300mg 100%	5/9/2025 4:41:54 PM	
CCB	TC: 0.00000%	250.000mg	5/9/2025 4:50:59 PM	TC: Out of the calibrated ranges

ICV: 19-GEN-13-94-A
 CCV: 19-GEN-13-71-A
 LCS: 19-GEN-13-97-J
 LOQ: 19-GEN-12-9-N
 LOD: 19-GEN-12-9-M

LCS/DLCS/MB: Acidified w/10% HCL (19-GEN-12-10-N)

K-TOC-04

Method

Method: TOC by Manual Acidification - 5/9/25 **Version 3**

Created on: 5/9/2025 10:29:33 AM **of:** User
Last modification: 5/9/2025 2:59:00 PM **of:** User

Status: active
State: solid
Furnace: Ceramic tube (CS) - horizontal

Determinations:
Determinations: 1 - 1
Calculation algorithm: Conc_solid_EA4000_%
Operands:
Weight 1mg

Process:
FPG EA4000 (Default)
Furnace temperature 1100°C

Detection:

	TC
Detector	C_C201
Maximum integration time	600s
Stability	3
Start	0.12ppm
Threshold	5ppm

CalibrationData:

Calibration parameters TC		[CR1]4,709AU - 48,503AU	[CR2]48,503AU - 3,668,069AU
Type		Measurement	Measurement
Linked on		5/9/2025	5/9/2025
Name		Cal_TOC by Manual Acidification - 5/9/25_20250509_12 5828	Cal_TOC by Manual Acidification - 5/9/25_20250509_10 4957
Regression	Type	linear	linear
	K0	-4.751e+0	2.666e+1
	K1	6.318e-3	6.566e-3
Daily factor		1	1
	Type	Default	Default
	Date	5/9/2025	5/9/2025

DAB 5/9/25

K-TOC-04

Calibration

Calibration: Cal_TOC by Manual Acidification - 5/9/25_20250509_104957

Version 2

Calibration of: 5/9/2025 10:58:17 AM **of:** User
Last modification: 5/9/2025 12:26:27 PM **of:** User
Type: Constant concentration

Calibration parameters TC

Linear regression: $c*m = 6.566e-3*I+2.666e+1$
K0: 2.666e+1
K1: 6.566e-3
Calibration range: 39,802AU - 3,668,069AU

Residual standard deviation:	17,244AU	Linearity:	linear
Method standard deviation:	113.24097	Variance homogeneity:	non homogeneous
Method variation coefficient:	1.52342%	Detection limit:	235.38µg
Quality of replicates:	0.99985	Identification limit:	470.77µg
Correlation coefficient:	0.99992	Quantification limit:	873.81µg

Constant concentration: 12.00%

Measuring points	Rep.	Operands	I-net	c-act.	c-delta	Blank value
1	1/1	Weight: 2.400mg	47,548AU	14.12%	17.7%	0.000AU
2	1/1	Weight: 5.000mg	94,790AU	12.98%	8.18%	0.000AU
3	1/1	Weight: 10.100mg	185,470AU	12.32%	2.68%	0.000AU
4	1/1	Weight: 15.000mg	273,108AU	12.13%	1.11%	0.000AU
5	1/1	Weight: 25.000mg	455,049AU	12.06%	0.49%	0.000AU
6	1/1	Weight: 50.000mg	903,138AU	11.91%	-0.72%	0.000AU
7	1/1	Weight: 100.100mg	1,785,590AU	11.74%	-2.17%	0.000AU
8	1/1	Weight: 149.900mg	2,739,394AU	12.02%	0.14%	0.000AU
9	1/1	Weight: 200.000mg	3,668,069AU	12.06%	0.46%	0.000AU

Calcium Carbonate ID: 23-GEN-06-19-B (TV=12% C)

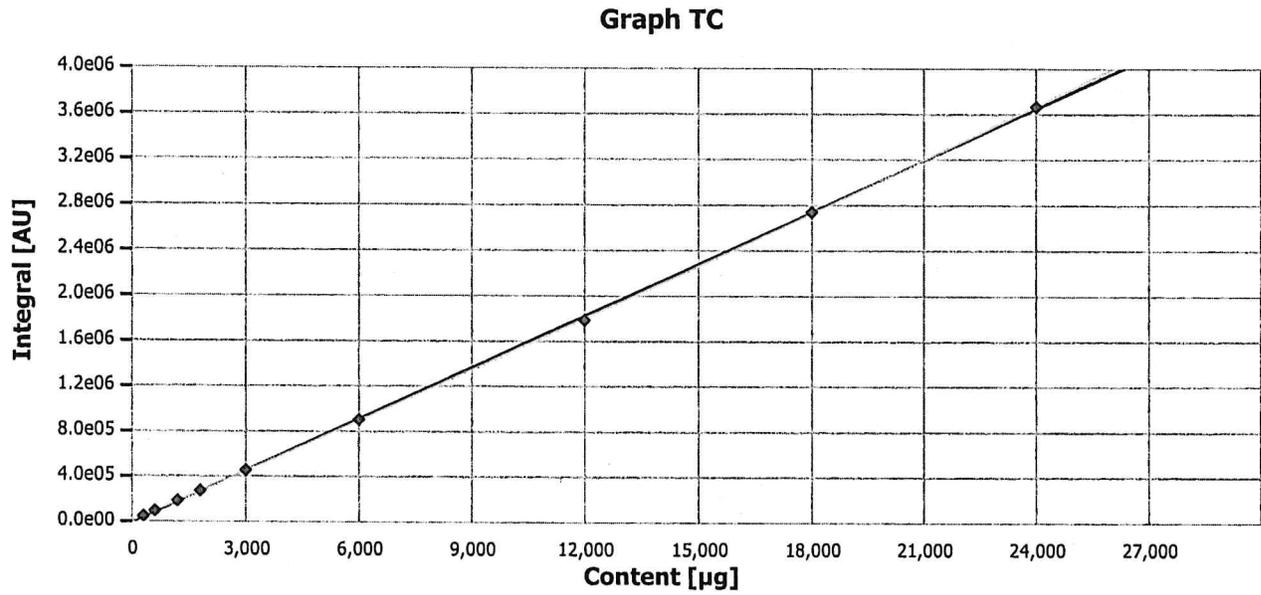
DAB 5/9/25

Calibration

Calibration:

Cal_TOC by Manual Acidification - 5/9/25_20250509_104957

Version 2



DAD 5/9/25

K-TOC-04

Calibration

Calibration: Cal_TOC by Manual Acidification - 5/9/25_20250509_125828

Version 1

Calibration of: 5/9/2025 1:05:59 PM **of:** User
Last modification: 5/9/2025 2:39:46 PM **of:** User
Type: Constant concentration

Calibration parameters TC

Linear regression: $c*m = 6.318e-3*I-4.751e+0$
K0: -4.751e+0
K1: 6.318e-3
Calibration range: 4,709AU - 48,503AU

Residual standard deviation:	340AU	Linearity:	linear
Method standard deviation:	2.14949	Variance homogeneity:	non homogeneous
Method variation coefficient:	1.49076%	Detection limit:	4.99µg
Quality of replicates:	0.99960	Identification limit:	9.97µg
Correlation coefficient:	0.99980	Quantification limit:	18.36µg

Constant concentration: 0.100%

Measuring points	Rep.	Operands	I-net	c-act.	c-delta	Blank value
1	1/1	Weight: 25.000mg	4,859AU	0.10%	3.80%	0.000AU
2	1/1	Weight: 49.700mg	8,246AU	0.095%	-4.73%	0.000AU
3	1/1	Weight: 75.300mg	13,154AU	0.10%	4.06%	0.000AU
4	1/1	Weight: 100.200mg	16,414AU	0.099%	-1.24%	0.000AU
5	1/1	Weight: 150.400mg	24,324AU	0.099%	-0.98%	0.000AU
6	1/1	Weight: 200.600mg	32,523AU	0.10%	0.07%	0.000AU
7	1/1	Weight: 250.600mg	40,800AU	0.10%	0.97%	0.000AU
8	1/1	Weight: 301.700mg	48,263AU	0.099%	-0.50%	0.000AU

KHP ID: 19-GEN-12-10-M (TV = 0.1%)

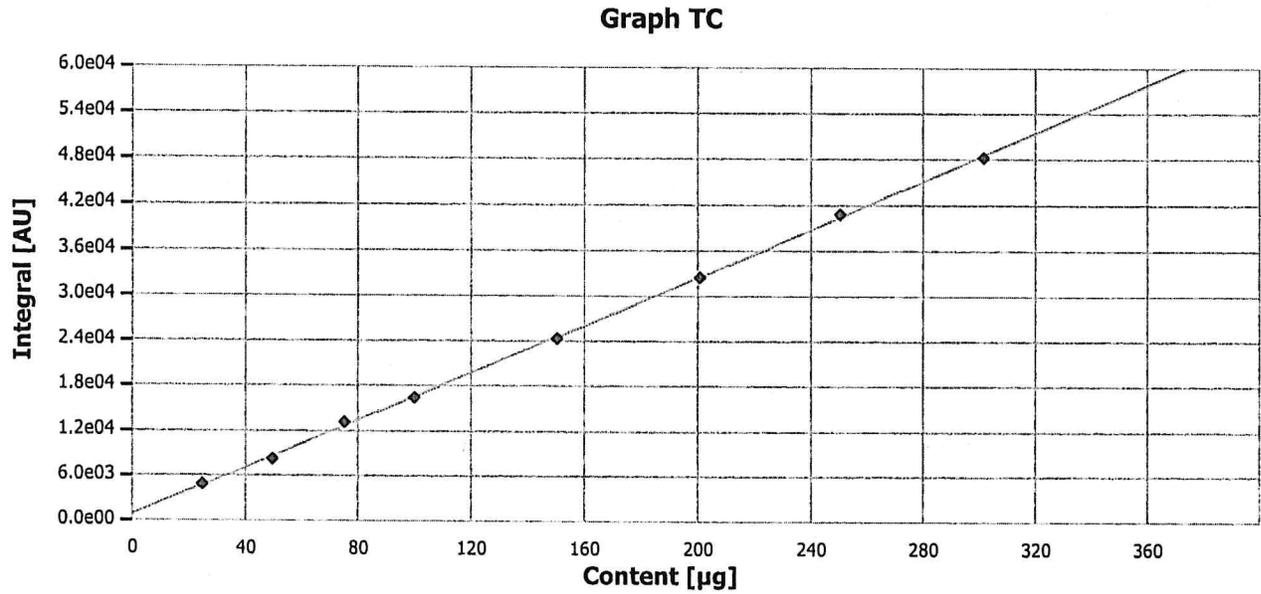
DAB 5/9/25

Calibration

Calibration:

Cal_TOC by Manual Acidification - 5/9/25_20250509_125828

Version 1





Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 461642
 Team: Metals/KLAWSON
 Number of Copies to make: 1

Prep Workflow: MetDigSICP
 Prep Method: EPA 3050B

Status: Prepped
 Prep Date/Time: 7/30/25 10:28

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513499-03	MB		6020B/Metals T		Solid	1.0000g	100.00mL	10% HNO3, 10% HCl
2	KQ2513499-04	LCS		6020B/Metals T		Solid	1.0000g	100.00mL	10% HNO3, 10% HCl
3	K2507459-019	2025KGMUSHS2	.03	6020B/Metals T		Soil	1.221g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
4	KQ2513499-01	K2507459-019 DUP	.03	6020B/Metals T		Solid	1.294g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
5	KQ2513499-02	K2507459-019 MS	.03	6020B/Metals T		Solid	1.237g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
6	K2507459-020	2025KGMUSHS3	.03	6020B/Metals T		Soil	1.220g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
7	K2507459-021	2025KGMWFSCS3	.03	6020B/Metals T		Soil	1.342g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
8	K2507459-022	2025KGMWFSCS1	.03	6020B/Metals T		Soil	1.340g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
9	K2507459-023	2025KGMWFSCS2	.03	6020B/Metals T		Soil	1.153g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
10	K2507459-024	2025KGMWFSCS3	.03	6020B/Metals T		Soil	1.194g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
11	K2507459-025	2025KGMWLFSCS1	.03	6020B/Metals T		Soil	1.113g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
12	K2507459-026	2025KGMWLFSCS2	.03	6020B/Metals T		Soil	1.252g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
13	K2507459-027	2025KGMWLFSCS3	.03	6020B/Metals T		Soil	1.128g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl

Spiking Solutions

Name: K-MET SS4	Inventory ID 242144	Logbook Ref: K-MET SS4	Expires On: 12/31/2025
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KQ2513499-02 1.00mL KQ2513499-04 1.00mL

Name: K-MET SS1	Inventory ID 242383	Logbook Ref: MET4-98-F	Expires On: 03/24/2026
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KQ2513499-02 2.00mL KQ2513499-04 2.00mL

Name: K-MET SS5	Inventory ID 242539	Logbook Ref: MET4-98-H	Expires On: 11/25/2025
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KQ2513499-02 1.00mL KQ2513499-04 1.00mL

Name: K-MET SS3	Inventory ID 242709	Logbook Ref: MET4-100-A	Expires On: 09/30/2025
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KQ2513499-02 1.00mL KQ2513499-04 1.00mL

Preparation Materials

K-MET 100ml Centrifuge Tube	LV24080202 (241183)	K-MET HCL	23J3062002 (240563)	K-MET H2O2	64095427 (242429)
K-MET HNO3	23H1462001 (242467)	K-METPTFE Boiling chips	D1069103 (242830)		

METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1 *** Add after HNO3 and before ALS-89 when making the solution	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	100	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb***	50.0	1000ml	50	
V	100*	1000ml	50		
Zn	100*	1000ml	50		
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.00	500ml	4	
	Cd	2.00	500ml	4	
	Pb	2.00	500ml	4	
	Se	2.00	500ml	4	
	Tl	2.00	500ml	4	
	Cu	2.00	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	10.0	500ml	20	
	Hg	6.00	500ml	12	
K-MET SS4	HNO3	25.0	500ml	-	
	B	25.0	500ml	50	
	Mo	50.0	500ml	100	
	U	10.0	500ml	20	
K-MET SS5	HNO3	25.0	500ml	-	
	K**	50.0	500ml	1000	
	Na**	50.0	500ml	1000	
	Mg**	50.0	500ml	1000	
	Ca**	50.0	500ml	1000	

K-MET Hydride	HNO3	1.0	100ml	-	
	As, Se	0.25	100ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mils of standard	ppm	Logbook #	Exp. Date

Preparation Information Benchsheet

Prep Run#: 461642
 Team: Metals/ZBIBI
 Number of Copies to make: 1

Prep Workflow: MetDigSICP
 Prep Method: EPA 3050B

Status: Draft
 Prep Date/Time: 7/30/25 15:56 PM

#	Lab Code	Client ID	B#	✓	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513499-03	MB			6020B / Metals T	Solid						
2	KQ2513499-04	LCS			6020B / Metals T	Solid						
3	K2507459-019	2025KGMUSHS2	.03		6020B / Metals T	Soil						
4	KQ2513499-01	K2507459-019 DUP	.03		6020B / Metals T	Solid						
5	KQ2513499-02	K2507459-019 MS	.03		6020B / Metals T	Solid						
6	K2507459-020	2025KGMUSHS3	.03		6020B / Metals T	Soil						
7	K2507459-021	2025KGMWFSCS3	.03		6020B / Metals T	Soil						
8	K2507459-022	2025KGMWFSCS1	.03		6020B / Metals T	Soil						
9	K2507459-023	2025KGMWFSCS2	.03		6020B / Metals T	Soil						
10	K2507459-024	2025KGMWFSCS3	.03		6020B / Metals T	Soil						
11	K2507459-025	2025KGMFLSCS1	.03		6020B / Metals T	Soil						
12	K2507459-026	2025KGMFLSCS2	.03		6020B / Metals T	Soil						
13	K2507459-027	2025KGMFLSCS3	.03		6020B / Metals T	Soil						

R1- 10:28 - 10:43 *re 7/31/25*
 R2- 10:50 - ~~10:33~~ 11:35
 H₂O₂- 12:10 - 1:25
 R3- 1:36 - 1:54

Comments: BD - 7 TL - 26 T - 95.1

Surrogate ID: _____

Spike ID: SS1, 3, 4, 5

Witnessed By: _____

Analyst: _____

Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461642

Container Lot No: LV24090105

Prep Due Date:

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-019	.03	Metals T : 6020B/	1.221g		ZBIBI k-balance-50
2	K2507459-019 DUP KQ2513499-01	.03	Metals T : 6020B/	1.294g		ZBIBI k-balance-50
3	K2507459-019 MS KQ2513499-02	.03	Metals T : 6020B/	1.237g		ZBIBI k-balance-50
4	K2507459-020	.03	Metals T : 6020B/	1.220g		ZBIBI k-balance-50
5	K2507459-021	.03	Metals T : 6020B/	1.342g		ZBIBI k-balance-50
6	K2507459-022	.03	Metals T : 6020B/	1.340g		ZBIBI k-balance-50
7	K2507459-023	.03	Metals T : 6020B/	1.153g		ZBIBI k-balance-50
8	K2507459-024	.03	Metals T : 6020B/	1.194g		ZBIBI k-balance-50
9	K2507459-025	.03	Metals T : 6020B/	1.113g		ZBIBI k-balance-50
10	K2507459-026	.03	Metals T : 6020B/	1.252g		ZBIBI k-balance-50
11	K2507459-027	.03	Metals T : 6020B/	1.128g		ZBIBI k-balance-50

Relinquished By: <i>ZB</i>	<i>7/30/25</i>	<i>1600</i>	Received By: <i>[Signature]</i>	Date/Time: <i>7/31/25 9:48</i>
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Preparation Information Benchsheet

Prep Run#: 461641
 Team: Metals/KLAWSON
 Number of Copies to make: 1

Prep Workflow: MetDigSICP
 Prep Method: EPA 3050B

Status: Prepped
 Prep Date/Time: 7/31/25 10:25

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513498-03	MB		6020B/Metals T		Solid	1.0000g	100.00mL	10% HNO3, 10% HCl
2	KQ2513498-04	LCS		6020B/Metals T		Solid	1.0000g	100.00mL	10% HNO3, 10% HCl
3	K2507459-001	2025KGMUJCSP1S1	.03	6020B/Metals T		Soil	1.206g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
4	KQ2513498-01	K2507459-001 DUP	.03	6020B/Metals T		Solid	1.231g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
5	KQ2513498-02	K2507459-001 MS	.03	6020B/Metals T		Solid	1.212g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
6	K2507459-002	2025KGMUJCSP1S2	.03	6020B/Metals T		Soil	1.141g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
7	K2507459-003	2025KGMUJCSP1S3	.03	6020B/Metals T		Soil	1.252g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
8	K2507459-004	2025KGMLJCS1	.03	6020B/Metals T		Soil	1.297g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
9	K2507459-005	2025KGMLJCS2	.03	6020B/Metals T		Soil	1.275g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
10	K2507459-006	2025KGMLJCS3	.03	6020B/Metals T		Soil	1.406g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
11	K2507459-007	2025KGMEFSCS2	.03	6020B/Metals T		Soil	1.213g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
12	K2507459-008	2025KGMUSCSP1S1	.03	6020B/Metals T		Soil	1.201g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
13	K2507459-009	2025KGMUSCSP1S2	.03	6020B/Metals T		Soil	1.125g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
14	K2507459-010	2025KGMUSCSP1S3	.03	6020B/Metals T		Soil	1.312g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
15	K2507459-011	2025KGMUSCSP2S1	.03	6020B/Metals T		Soil	1.133g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
16	K2507459-012	2025KGMUSCSP2S2	.03	6020B/Metals T		Soil	1.178g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
17	K2507459-013	2025KGMUSCSP2S3	.03	6020B/Metals T		Soil	1.338g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
18	K2507459-014	2025KGMEFSCS1	.03	6020B/Metals T		Soil	1.141g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
19	K2507459-015	2025KGMLSHSP1S1	.03	6020B/Metals T		Soil	1.185g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
20	K2507459-016	2025KGMLSHSP1S2	.03	6020B/Metals T		Soil	1.336g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
21	K2507459-017	2025KGMLSHSP1S3	.03	6020B/Metals T		Soil	1.346g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl
22	K2507459-018	2025KGMUSHS1	.03	6020B/Metals T		Soil	1.251g	100.00mL	ZBIBI k-balance-50 / 10% HNO3, 10% HCl

Spiking Solutions

Name: K-MET SS4	Inventory ID 242144	Logbook Ref: K-MET SS4	Expires On: 12/31/2025
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KQ2513498-02 1.00mL KQ2513498-04 1.00mL

Name: K-MET SS1	Inventory ID 242383	Logbook Ref: MET4-98-F	Expires On: 03/24/2026
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KQ2513498-02 2.00mL KQ2513498-04 2.00mL

Name: K-MET SS5	Inventory ID 242539	Logbook Ref: MET4-98-H	Expires On: 11/25/2025
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KQ2513498-02 1.00mL KQ2513498-04 1.00mL

METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1 *** Add after HNO3 and before ALS-89 when making the solution	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	100	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb***	50.0	1000ml	50	
V	100*	1000ml	50		
Zn	100*	1000ml	50		
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.00	500ml	4	
	Cd	2.00	500ml	4	
	Pb	2.00	500ml	4	
	Se	2.00	500ml	4	
	Tl	2.00	500ml	4	
	Cu	2.00	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	10.0	500ml	20	
	Hg	6.00	500ml	12	
K-MET SS4	HNO3	25.0	500ml	-	
	B	25.0	500ml	50	
	Mo	50.0	500ml	100	
	U	10.0	500ml	20	
K-MET SS5	HNO3	25.0	500ml	-	
	K**	50.0	500ml	1000	
	Na**	50.0	500ml	1000	
	Mg**	50.0	500ml	1000	
	Ca**	50.0	500ml	1000	

K-MET Hydride	HNO3	1.0	100ml	-	
	As, Se	0.25	100ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

Preparation Information Benchsheet

Prep Run#: 461641
 Team: Metals/KLAWSON

Prep Workflow: MetDigSICP
 Prep Method: EPA 3050B

Status: Draft
 Prep Date/Time: 7/30/25 15:55 PM

Number of Copies to make: 1

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513498-03	MB			6020B / Metals T	Solid						
2	KQ2513498-04	LCS			6020B / Metals T	Solid						
3	K2507459-001	2025KGMUJCSP1S1	.03		6020B / Metals T	Soil						
4	KQ2513498-01	K2507459-001 DUP	.03		6020B / Metals T	Solid						
5	KQ2513498-02	K2507459-001 MS	.03		6020B / Metals T	Solid						
6	K2507459-002	2025KGMUJCSP1S2	.03		6020B / Metals T	Soil						
7	K2507459-003	2025KGMUJCSP1S3	.03		6020B / Metals T	Soil						
8	K2507459-004	2025KGMLJCS1	.03		6020B / Metals T	Soil						
9	K2507459-005	2025KGMLJCS2	.03		6020B / Metals T	Soil						
10	K2507459-006	2025KGMLJCS3	.03		6020B / Metals T	Soil						
11	K2507459-007	2025KGMEFSCS2	.03		6020B / Metals T	Soil						
12	K2507459-008	2025KGMUSCSP1S1	.03		6020B / Metals T	Soil						
13	K2507459-009	2025KGMUSCSP1S2	.03		6020B / Metals T	Soil						
14	K2507459-010	2025KGMUSCSP1S3	.03		6020B / Metals T	Soil						
15	K2507459-011	2025KGMUSCSP2S1	.03		6020B / Metals T	Soil						
16	K2507459-012	2025KGMUSCSP2S2	.03		6020B / Metals T	Soil						
17	K2507459-013	2025KGMUSCSP2S3	.03		6020B / Metals T	Soil						
18	K2507459-014	2025KGMEFSCS1	.03		6020B / Metals T	Soil						
19	K2507459-015	2025KGMLSHSP1S1	.03		6020B / Metals T	Soil						
20	K2507459-016	2025KGMLSHSP1S2	.03		6020B / Metals T	Soil						
21	K2507459-017	2025KGMLSHSP1S3	.03		6020B / Metals T	Soil						
22	K2507459-018	2025KGMUSHS1	.03		6020B / Metals T	Soil						

R1 - 10:25 - 10:40 Kc 7/31/25
 R2 - 10:48 - ~~10:33~~ 11:33
 H₂O₂ - 12:08 - 1:23
 R3 - 1:33 - 1:48

Comments: BD-7 TL-26 T-95.1

Surrogate ID: _____ Spike ID: 551, 3, 4, 5
 Witnessed By: _____
 Analyst: _____ Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461641

Container Lot No: LV24090105

Prep Due Date:

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-001	.03	Metals T : 6020B/	1.206g		ZBIBI k-balance-50
2	K2507459-001 DUP KQ2513498-01	.03	Metals T : 6020B/	1.231g		ZBIBI k-balance-50
3	K2507459-001 MS KQ2513498-02	.03	Metals T : 6020B/	1.212g		ZBIBI k-balance-50
4	K2507459-002	.03	Metals T : 6020B/	1.141g		ZBIBI k-balance-50
5	K2507459-003	.03	Metals T : 6020B/	1.252g		ZBIBI k-balance-50
6	K2507459-004	.03	Metals T : 6020B/	1.297g		ZBIBI k-balance-50
7	K2507459-005	.03	Metals T : 6020B/	1.275g		ZBIBI k-balance-50
8	K2507459-006	.03	Metals T : 6020B/	1.406g		ZBIBI k-balance-50
9	K2507459-007	.03	Metals T : 6020B/	1.213g		ZBIBI k-balance-50
10	K2507459-008	.03	Metals T : 6020B/	1.201g		ZBIBI k-balance-50
11	K2507459-009	.03	Metals T : 6020B/	1.125g		ZBIBI k-balance-50
12	K2507459-010	.03	Metals T : 6020B/	1.312g		ZBIBI k-balance-50
13	K2507459-011	.03	Metals T : 6020B/	1.133g		ZBIBI k-balance-50
14	K2507459-012	.03	Metals T : 6020B/	1.178g		ZBIBI k-balance-50
15	K2507459-013	.03	Metals T : 6020B/	1.338g		ZBIBI k-balance-50
16	K2507459-014	.03	Metals T : 6020B/	1.141g		ZBIBI k-balance-50
17	K2507459-015	.03	Metals T : 6020B/	1.185g		ZBIBI k-balance-50
18	K2507459-016	.03	Metals T : 6020B/	1.336g		ZBIBI k-balance-50
19	K2507459-017	.03	Metals T : 6020B/	1.346g		ZBIBI k-balance-50
20	K2507459-018	.03	Metals T : 6020B/	1.251g		ZBIBI k-balance-50

Relinquished By: 223 Date/Time: 7/30/25 16:00 Received By: AL Date/Time: 7/30/25 9:48

Preparation Information Benchsheet

Prep Run#: 461639

Prep Workflow: HgDigS

Status: Prepped

Team: Metals/MSOLADEY

Prep Method: Method

Prep Date/Time: 8/1/25 14:31

Number of Copies to make: 1

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513496-03	MB		7471A/Hg		Solid	0.5g	50.00mL	
2	KQ2513496-04	LCS		7471A/Hg		Solid	0.5g	50.00mL	
3	K2507459-001	2025KGMUJCSP1S1	.03	7471A/Hg		Soil	0.576g	50.00mL	ZBIBI k-balance-50
4	KQ2513496-01	K2507459-001 DUP	.03	7471A/Hg		Solid	0.578g	50.00mL	ZBIBI k-balance-50
5	KQ2513496-02	K2507459-001 MS	.03	7471A/Hg		Solid	0.552g	50.00mL	ZBIBI k-balance-50
6	K2507459-002	2025KGMUJCSP1S2	.03	7471A/Hg		Soil	0.536g	50.00mL	ZBIBI k-balance-50
7	K2507459-003	2025KGMUJCSP1S3	.03	7471A/Hg		Soil	0.550g	50.00mL	ZBIBI k-balance-50
8	K2507459-004	2025KGMLJCS1	.03	7471A/Hg		Soil	0.521g	50.00mL	ZBIBI k-balance-50
9	K2507459-005	2025KGMLJCS2	.03	7471A/Hg		Soil	0.534g	50.00mL	ZBIBI k-balance-50
10	K2507459-006	2025KGMLJCS3	.03	7471A/Hg		Soil	0.515g	50.00mL	ZBIBI k-balance-50
11	K2507459-007	2025KGMFSCS2	.03	7471A/Hg		Soil	0.577g	50.00mL	ZBIBI k-balance-50
12	K2507459-008	2025KGMUSCSP1S1	.03	7471A/Hg		Soil	0.565g	50.00mL	ZBIBI k-balance-50
13	K2507459-009	2025KGMUSCSP1S2	.03	7471A/Hg		Soil	0.503g	50.00mL	ZBIBI k-balance-50
14	K2507459-010	2025KGMUSCSP1S3	.03	7471A/Hg		Soil	0.520g	50.00mL	ZBIBI k-balance-50
15	K2507459-011	2025KGMUSCSP2S1	.03	7471A/Hg		Soil	0.569g	50.00mL	ZBIBI k-balance-50
16	K2507459-012	2025KGMUSCSP2S2	.03	7471A/Hg		Soil	0.554g	50.00mL	ZBIBI k-balance-50
17	K2507459-013	2025KGMUSCSP2S3	.03	7471A/Hg		Soil	0.517g	50.00mL	ZBIBI k-balance-50
18	K2507459-014	2025KGMFSCS1	.03	7471A/Hg		Soil	0.546g	50.00mL	ZBIBI k-balance-50
19	K2507459-015	2025KGMLSHSP1S1	.03	7471A/Hg		Soil	0.581g	50.00mL	ZBIBI k-balance-50
20	K2507459-016	2025KGMLSHSP1S2	.03	7471A/Hg		Soil	0.571g	50.00mL	ZBIBI k-balance-50
21	K2507459-017	2025KGMLSHSP1S3	.03	7471A/Hg		Soil	0.530g	50.00mL	ZBIBI k-balance-50
22	K2507459-018	2025KGMUSHS1	.03	7471A/Hg		Soil	0.533g	50.00mL	ZBIBI k-balance-50

Spiking Solutions

Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 243166	Logbook Ref: HG4-27-N	Expires On: 09/01/2025
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KQ2513496-02 0.25mL KQ2513496-04 0.25mL

Preparation Materials

K-MET 100ml Centrifuge Tube LV24121002 (242799) K-MET HCl Hg 24G3162002 (241174) K-MET HNO3 Hg 23H1462001 (241175)

Preparation Information Benchsheet

Prep Run#: 461639
Team: Metals/MSOLADEY

Prep Workflow: HgDigS
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/1/25 14:31

Preparation Steps

Step: Weigh	Step: Digestion
Started: 8/1/25 14:31	Started: 8/1/25 14:31
Finished: 8/1/25 15:01	Finished: 8/1/25 15:01
By: MSOLADEY	By: MSOLADEY
Comments	Comments

Preparation Equipment

K-Block-Digester-14	Digestion	IR Thermometer ID: IR03		K-Block-Digester-14	Digestion	Temperature	95.5 deg C
K-Block-Digester-14	Digestion	Temperature Check Location	21	K-BlockDigester-15	Digestion	IR Thermometer ID: IR03	
K-BlockDigester-15	Digestion	Temperature	94.5 deg C	K-BlockDigester-15	Digestion	Temperature Check Location	21
K-U72662	Digestion			HG-39591307	Digestion		
Hg-43188965	Digestion						

Comments: Daily Cal Standard/ CCV Source: HG4-27-R

Reviewed By: _____ Date: _____

Preparation Information Benchsheet

Prep Run#: 461639
 Team: Metals/ZBIBI
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Draft
 Prep Date/Time: 7/30/25 15:53 PM

#	Lab Code	Client ID	B#	√	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513496-03	MB			7471A / Hg	Solid						
2	KQ2513496-04	LCS			7471A / Hg	Solid						
3	K2507459-001	2025KGMUJCSPI1	.03		7471A / Hg	Soil						
4	KQ2513496-01	K2507459-001 DUP	.03		7471A / Hg	Solid						
5	KQ2513496-02	K2507459-001 MS	.03		7471A / Hg	Solid						
6	K2507459-002	2025KGMUJCSPI2	.03		7471A / Hg	Soil						
7	K2507459-003	2025KGMUJCSPI3	.03		7471A / Hg	Soil						
8	K2507459-004	2025KGMLJCS1	.03		7471A / Hg	Soil						
9	K2507459-005	2025KGMLJCS2	.03		7471A / Hg	Soil						
10	K2507459-006	2025KGMLJCS3	.03		7471A / Hg	Soil						
11	K2507459-007	2025KGMEFSCS2	.03		7471A / Hg	Soil						
12	K2507459-008	2025KGMUSCSP1S1	.03		7471A / Hg	Soil						
13	K2507459-009	2025KGMUSCSP1S2	.03		7471A / Hg	Soil						
14	K2507459-010	2025KGMUSCSP1S3	.03		7471A / Hg	Soil						
15	K2507459-011	2025KGMUSCSP2S1	.03		7471A / Hg	Soil						
16	K2507459-012	2025KGMUSCSP2S2	.03		7471A / Hg	Soil						
17	K2507459-013	2025KGMUSCSP2S3	.03		7471A / Hg	Soil						
18	K2507459-014	2025KGMEFSCS1	.03		7471A / Hg	Soil						
19	K2507459-015	2025KGMLSHSP1S1	.03		7471A / Hg	Soil						
20	K2507459-016	2025KGMLSHSP1S2	.03		7471A / Hg	Soil						
21	K2507459-017	2025KGMLSHSP1S3	.03		7471A / Hg	Soil						
22	K2507459-018	2025KGMUSHS1	.03		7471A / Hg	Soil						

K2507459-26-T

Comments: DD-14 TL: 21 T: 95.5
DD-15 TL: 21 T: 94.5

H64-27-R

2:31-3:01

Surrogate ID: _____

Spike ID: _____

Witnessed By: _____

Analyst: _____

Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461639

Container Lot No: LV24090105

Prep Due Date: Aug-01-2025

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-001	.03	Hg : 7471A/	0.576g		ZBIBI k-balance-50
2	K2507459-001 DUP KQ2513496-01	.03	Hg : 7471A/	0.578g		ZBIBI k-balance-50
3	K2507459-001 MS KQ2513496-02	.03	Hg : 7471A/	0.552g		ZBIBI k-balance-50
4	K2507459-002	.03	Hg : 7471A/	0.536g		ZBIBI k-balance-50
5	K2507459-003	.03	Hg : 7471A/	0.550g		ZBIBI k-balance-50
6	K2507459-004	.03	Hg : 7471A/	0.521g		ZBIBI k-balance-50
7	K2507459-005	.03	Hg : 7471A/	0.534g		ZBIBI k-balance-50
8	K2507459-006	.03	Hg : 7471A/	0.515g		ZBIBI k-balance-50
9	K2507459-007	.03	Hg : 7471A/	0.577g		ZBIBI k-balance-50
10	K2507459-008	.03	Hg : 7471A/	0.565g		ZBIBI k-balance-50
11	K2507459-009	.03	Hg : 7471A/	0.503g		ZBIBI k-balance-50
12	K2507459-010	.03	Hg : 7471A/	0.520g		ZBIBI k-balance-50
13	K2507459-011	.03	Hg : 7471A/	0.569g		ZBIBI k-balance-50
14	K2507459-012	.03	Hg : 7471A/	0.554g		ZBIBI k-balance-50
15	K2507459-013	.03	Hg : 7471A/	0.517g		ZBIBI k-balance-50
16	K2507459-014	.03	Hg : 7471A/	0.546g		ZBIBI k-balance-50
17	K2507459-015	.03	Hg : 7471A/	0.581g		ZBIBI k-balance-50
18	K2507459-016	.03	Hg : 7471A/	0.571g		ZBIBI k-balance-50
19	K2507459-017	.03	Hg : 7471A/	0.530g		ZBIBI k-balance-50
20	K2507459-018	.03	Hg : 7471A/	0.533g		ZBIBI k-balance-50

Relinquished By: <i>ZZS</i>	Date/Time: <i>7/30/25 16:00</i>	Received By: <i>mkj</i>	Date/Time: <i>8/1/25 1:40</i>
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Preparation Information Benchsheet

Prep Run#: 461640
 Team: Metals/MSOLADEY
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 8/1/25 14:31

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513497-03	MB		7471A/Hg		Solid	0.5g	50.00mL	
2	KQ2513497-04	LCS		7471A/Hg		Solid	0.5g	50.00mL	
3	K2507459-019	2025KGMUSHS2	.03	7471A/Hg		Soil	0.568g	50.00mL	ZBIBI k-balance-50
4	KQ2513497-01	K2507459-019 DUP	.03	7471A/Hg		Solid	0.528g	50.00mL	ZBIBI k-balance-50
5	KQ2513497-02	K2507459-019 MS	.03	7471A/Hg		Solid	0.516g	50.00mL	ZBIBI k-balance-50
6	K2507459-020	2025KGMUSHS3	.03	7471A/Hg		Soil	0.549g	50.00mL	ZBIBI k-balance-50
7	K2507459-021	2025KGMEFSCS3	.03	7471A/Hg		Soil	0.569g	50.00mL	ZBIBI k-balance-50
8	K2507459-022	2025KGMWFSCS1	.03	7471A/Hg		Soil	0.533g	50.00mL	ZBIBI k-balance-50
9	K2507459-023	2025KGMWFSCS2	.03	7471A/Hg		Soil	0.553g	50.00mL	ZBIBI k-balance-50
10	K2507459-024	2025KGMWFSCS3	.03	7471A/Hg		Soil	0.560g	50.00mL	ZBIBI k-balance-50
11	K2507459-025	2025KGMLSCS1	.03	7471A/Hg		Soil	0.534g	50.00mL	ZBIBI k-balance-50
12	K2507459-026	2025KGMLSCS2	.03	7471A/Hg		Soil	0.597g	50.00mL	ZBIBI k-balance-50
13	K2507459-027	2025KGMLSCS3	.03	7471A/Hg		Soil	0.510g	50.00mL	ZBIBI k-balance-50

Spiking Solutions

Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 243166	Logbook Ref: HG4-27-N	Expires On: 09/01/2025
--	---------------------	-----------------------	------------------------

KQ2513497-02 0.25mL KQ2513497-04 0.25mL

Preparation Materials

K-MET 100ml Centrifuge Tube LV24121002 (242799) K-MET HCl Hg 24G3162002 (241174) K-MET HNO3 Hg 23H1462001 (241175)

Preparation Steps

Step: Weigh	Step: Digestion
Started: 8/1/25 14:31	Started: 8/1/25 14:31
Finished: 8/1/25 15:01	Finished: 8/1/25 15:01
By: MSOLADEY	By: MSOLADEY
Comments	Comments

Preparation Equipment

K-Block-Digester-14 Digestion	IR Thermometer ID: IR03	K-Block-Digester-14 Digestion	Temperature	95.5 deg C
K-Block-Digester-14 Digestion	Temperature Check Location 21	K-BlockDigester-15 Digestion	IR Thermometer ID: IR03	
K-BlockDigester-15 Digestion	Temperature 94.5 deg C	K-BlockDigester-15 Digestion	Temperature Check Location 21	
HG-39591307 Digestion		Hg-43188965 Digestion		
K-U72662 Digestion				

Preparation Information Benchsheet

Prep Run#: 461640
Team: Metals/MSOLADEY

Prep WorkFlow: HgDigS
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/1/25 14:31

Comments: Daily Cal Standard/ CCV Source: HG4-27-R

Reviewed By: _____ Date: _____

Preparation Information Benchsheet

Prep Run#: 461640
 Team: Metals/ZBIBI
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Draft
 Prep Date/Time: 7/30/25 15:54 PM

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513497-03	MB			7471A / Hg	Solid						
2	KQ2513497-04	LCS			7471A / Hg	Solid						
3	K2507459-019	2025KGMUSHS2	.03		7471A / Hg	Soil						
4	KQ2513497-01	K2507459-019 DUP	.03		7471A / Hg	Solid						
5	KQ2513497-02	K2507459-019 MS	.03		7471A / Hg	Solid						
6	K2507459-020	2025KGMUSHS3	.03		7471A / Hg	Soil						
7	K2507459-021	2025KGMWFSCS3	.03		7471A / Hg	Soil						
8	K2507459-022	2025KGMWFSCS1	.03		7471A / Hg	Soil						
9	K2507459-023	2025KGMWFSCS2	.03		7471A / Hg	Soil						
10	K2507459-024	2025KGMWFSCS3	.03		7471A / Hg	Soil						
11	K2507459-025	2025KGMFLSCS1	.03		7471A / Hg	Soil						
12	K2507459-026	2025KGMFLSCS2	.03		7471A / Hg	Soil						
13	K2507459-027	2025KGMFLSCS3	.03		7471A / Hg	Soil						

KM207 H64-27-J

Comments: *BP-14 TL: 21 T: 99.9*
BP-15 TL: 21 T: 99.9

H64-27-R

2:31-7:01

Surrogate ID: _____

Spike ID: _____

Witnessed By: _____

Analyst: _____

Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461640

Container Lot No: LV24090105

Prep Due Date:

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-019	.03	Hg : 7471A/	0.568g		ZBIBI k-balance-50
2	K2507459-019 DUP KQ2513497-01	.03	Hg : 7471A/	0.528g		ZBIBI k-balance-50
3	K2507459-019 MS KQ2513497-02	.03	Hg : 7471A/	0.516g		ZBIBI k-balance-50
4	K2507459-020	.03	Hg : 7471A/	0.549g		ZBIBI k-balance-50
5	K2507459-021	.03	Hg : 7471A/	0.569g		ZBIBI k-balance-50
6	K2507459-022	.03	Hg : 7471A/	0.533g		ZBIBI k-balance-50
7	K2507459-023	.03	Hg : 7471A/	0.553g		ZBIBI k-balance-50
8	K2507459-024	.03	Hg : 7471A/	0.560g		ZBIBI k-balance-50
9	K2507459-025	.03	Hg : 7471A/	0.534g		ZBIBI k-balance-50
10	K2507459-026	.03	Hg : 7471A/	0.597g		ZBIBI k-balance-50
11	K2507459-027	.03	Hg : 7471A/	0.510g		ZBIBI k-balance-50

Relinquished By: <i>22B</i>	Date/Time: <i>7/30/25 16:00</i>	Received By: <i>[Signature]</i>	Date/Time: <i>8/1/25 1:40</i>
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Service Request # K2507459
Instrument ID # K-ICP-MS-05
Calibration 080125AICPMS05

ALS LIMS Run # 888259

Cal Std: MS37-15-I

LLICV Std: MS37-10-H

CCV Std: MS37-16-A

ICSA Std: MS37-13-A

ICV Std: MS37-4-A

ICSAB Std: MS37-13-B

I.S. Solution: MS36-85-C

EPA Tune Solution: MS36-87-A

Pipette IDs: 38480473, 42390072, 44183886

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	<u>X</u>	_____	_____
2. ICV in control (+/- 10%)	<u>X</u>	_____	_____
3. CCV's in control (+/- 10%)	<u>X</u>	_____	_____
4. ICB/CCB's below MRL	<u>X</u>	_____	_____
5. LLICV standard analyzed and in control	<u>X</u>	_____	_____
6. ICS standards within 20% of true value	<u>X</u>	_____	_____
7. All analytes within instrument linear range	<u>X</u>	_____	_____
8. Adequate rinse out time allowed	<u>X</u>	_____	_____
9. Internal standards in control	<u>X</u>	_____	_____
10. Interferences checked	<u>X</u>	_____	_____
11. Was the run terminated? If so, why.	_____	<u>X</u>	_____

See Benchsheet exception report for sample batch QC information.
Comments:

Prep Batch: 461641, 461642

Primary Review by 3L Date 8/1/25

Secondary Review by KL Date 8/1/25

Data Review Form

Instrument ID#: K-ICP-MS-05
DataFile Name: R:\ICP\WIP\DATA\K-ICP-MS-05 (Agilent)\080125A.csv
RUNNO: 888259

K2507459

K2507459-001DUP - Metals T -

DUP RPD

6020B/Metals T - 208 Pb [He] - RPD: 53 Limit: 20

K2507459-019DUP - Metals T -

DUP RPD

6020B/Metals T - 208 Pb [He] - RPD: 57 Limit: 20

Primary Approver: SC 8/1/25
Secondary Approver: KL 8/1/25

Sample								
	Rjct	Data File	Acq. Date-Time	Type	Level	Sample Name	Comment	
1	☐	001CALB.	2025-08-01 07:22:01	CalBlk		Prime		
2	☐	002CALB.	2025-08-01 07:24:36	CalBlk		Rinse		
3	☐	003CALB.	2025-08-01 07:27:13	CalBlk	1	Blank		
4	☐	004CALB.	2025-08-01 07:29:49	CalStd	2	Calibration Standar		
5	☐	005_ICV.d	2025-08-01 07:32:22	ICV		ICV		
6	☐	006_CCV.	2025-08-01 07:34:57	CCV		CCV		
7	☐	007_ICB.d	2025-08-01 07:37:32	ICB		ICB		
8	☐	008_CCB.	2025-08-01 07:40:09	CCB		CCB		
9	☐	009LICV.d	2025-08-01 07:42:44	LLICV		LLICVS		
10	☐	010LICV.d	2025-08-01 07:50:26	LLICV		LLICVS		8/17/25
11	☐	011ICSA.d	2025-08-01 07:54:00	ICSA		ICSA		
12	☐	012ICSB.d	2025-08-01 07:56:33	ICSB		ICSAB		
13	☐	013SMPL.	2025-08-01 07:59:08	Sample		MoSTD		
14	☐	014SMPL.	2025-08-01 08:09:56	Sample		LRASTD		
15	☐	015SMPL.	2025-08-01 08:13:07	Sample		LRASTD		
16	☐	016_PB.d	2025-08-01 08:35:19	PB		KQ2513498-03	10X	
17	☐	017_LCS.d	2025-08-01 08:37:54	LCS		KQ2513498-04	10X	
18	☐	018_ARF.d	2025-08-01 08:40:25	AllRef		K2507459-001	10X	
19	☐	019_Dup.d	2025-08-01 08:42:59	Dup		KQ2513498-01	10X	
20	☐	020SMPL.	2025-08-01 08:45:33	Sample		K2507459-001L	50X	
21	☐	021_PDS.d	2025-08-01 08:48:07	PDS		K2507459-001A	10X	
22	☐	022_Spk.d	2025-08-01 08:50:41	Spike		KQ2513498-02	10X	
23	☐	023SMPL.	2025-08-01 08:53:11	Sample		K2507459-002	10X	
24	☐	024SMPL.	2025-08-01 08:55:46	Sample		K2507459-003	10X	
25	☐	025SMPL.	2025-08-01 08:58:21	Sample		K2507459-004	10X	
26	☐	026_CCV.	2025-08-01 09:00:56	CCV		CCV		
27	☐	027_CCB.	2025-08-01 09:03:31	CCB		CCB		
28	☐	028_Dup.d	2025-08-01 09:06:06	Dup		KQ2513498-01	10X	
29	☐	029SMPL.	2025-08-01 09:08:41	Sample		K2507459-005	10X	
30	☐	030SMPL.	2025-08-01 09:11:16	Sample		K2507459-006	10X	
31	☐	031SMPL.	2025-08-01 09:13:49	Sample		K2507459-007	10X	
32	☐	032SMPL.	2025-08-01 09:16:23	Sample		K2507459-008	10X	
33	☐	033SMPL.	2025-08-01 09:18:58	Sample		K2507459-009	10X	
34	☐	034SMPL.	2025-08-01 09:21:32	Sample		K2507459-010	10X	
35	☐	035SMPL.	2025-08-01 09:24:06	Sample		K2507459-011	10X	
36	☐	036SMPL.	2025-08-01 09:26:40	Sample		K2507459-012	10X	
37	☐	037_CCV.	2025-08-01 09:29:14	CCV		CCV		
38	☐	038_CCB.	2025-08-01 09:31:49	CCB		CCB		
39	☐	039SMPL.	2025-08-01 09:34:25	Sample		K2507459-013	10X	

Sample								
	Rjct	Data File	Acq. Date-Time	Type	Level	Sample Name	Comment	
40		040SMPL.	2025-08-01 09:36:59	Sample		K2507459-014	10X	
41		041SMPL.	2025-08-01 09:39:34	Sample		K2507459-015	10X	
42		042SMPL.	2025-08-01 09:42:08	Sample		K2507459-016	10X	
43		043SMPL.	2025-08-01 09:44:43	Sample		K2507459-017	10X	
44		044SMPL.	2025-08-01 09:47:18	Sample		K2507459-018	10X	
45		045SMPL.	2025-08-01 09:49:52	Sample		K2507459-013	10X	
46		046_CCV.	2025-08-01 09:52:33	CCV		CCV		
47		047_CCB.	2025-08-01 09:55:08	CCB		CCB		
48		048_PB.d	2025-08-01 09:57:43	PB		KQ2513499-03	10X	
49		049_LCS.d	2025-08-01 10:00:19	LCS		KQ2513499-04	10X	
50		050_ARF.d	2025-08-01 10:02:50	AllRef		K2507459-019	10X	
51		051_Dup.d	2025-08-01 10:05:24	Dup		KQ2513499-01	10X	
52		052SMPL.	2025-08-01 10:07:58	Sample		K2507459-019L	50X	
53		053_PDS.d	2025-08-01 10:10:33	PDS		K2507459-019A	10X	
54		054_Spk.d	2025-08-01 10:13:05	Spike		KQ2513499-02	10X	
55		055SMPL.	2025-08-01 10:15:35	Sample		K2507459-020	10X	
56		056SMPL.	2025-08-01 10:18:10	Sample		K2507459-021	10X	
57		057SMPL.	2025-08-01 10:20:45	Sample		K2507459-022	10X	
58		058_CCV.	2025-08-01 10:23:40	CCV		CCV		
59		059_CCB.	2025-08-01 10:26:15	CCB		CCB		
60		060SMPL.	2025-08-01 10:28:51	Sample		K2507459-023	10X	
61		061SMPL.	2025-08-01 10:31:27	Sample		K2507459-024	10X	
62		062SMPL.	2025-08-01 10:34:01	Sample		K2507459-025	10X	
63		063SMPL.	2025-08-01 10:36:36	Sample		K2507459-026	10X	
64		064SMPL.	2025-08-01 10:39:10	Sample		K2507459-027	10X	
65		065_CCV.	2025-08-01 10:42:23	CCV		CCV		
66		066_CCB.	2025-08-01 10:44:59	CCB		CCB		

Analyte							
	Name	Mass	ISTD	Tune Mode	Conc.	Units	Replicate
1	Al	27	6	No Gas	0.6709	ug/l	3
2	Cr	52	72	He	0.0006	ug/l	3
3	Cr	53	72	He	0.0099	ug/l	3
4	Ni	60	72	He	0.0021	ug/l	3
5	Ni	62	72	He	-0.0091	ug/l	3
6	Cu	63	72	He	0.0010	ug/l	3
7	Cu	65	72	He	0.0070	ug/l	3
8	Zn	66	72	He	0.0487	ug/l	3
9	As	75	72	He	0.0189	ug/l	3
10	Se	77	72	H2	-0.1765	ug/l	3

Analyte

	Name	Mass	ISTD	Tune Mode	Conc.	Units	Replicate	
+	11	Se	78	72	H2	0.0515	ug/l	3
+	12	Mo	95	115	He	0.0348	ug/l	3
+	13	Mo	98	115	He	0.0308	ug/l	3
+	14	Ag	107	115	He	-0.0001	ug/l	3
+	15	Ag	109	115	He	0.0010	ug/l	3
+	16	Cd	111	115	He	0.0033	ug/l	3
+	17	Cd	114	115	He	0.0033	ug/l	3
+	18	[Pb]	206	175	He	-0.0062	ug/l	3
+	19	[Pb]	207	175	He	-0.0086	ug/l	3
+	20	Pb	208	175	He	-0.0069	ug/l	3
+	21	Li	6		No Gas			3
+	22	Sc	45		No Gas			3
+	23	Sc	45		He			3
+	24	Ge	72		H2			3
+	25	Ge	72		He			3
+	26	In	115		He			3
+	27	Lu	175		He			3
+	28	Th	232		He			3

US EPA Tune Check Report

Operator Name ALKLS NoUser
Acq/Data Batch D:\Agilent\ICPMH\1\DATA\080125.b
Acq. Date-Time 2025-08-01 06:42:13
Report Comment ALS Tune
Instrument Name G3281A JP13482848

[No Gas]

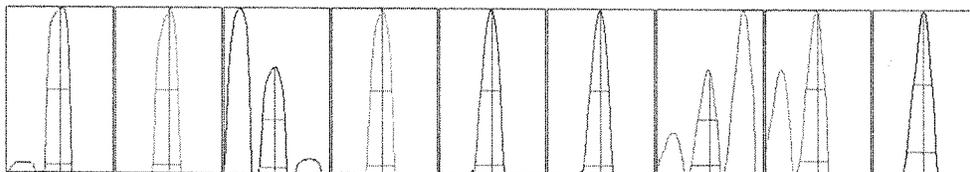
Sensitivity

Mass	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7	115971.75	0.895	5.000	
9	35209.81	1.306	5.000	
24	328173.77	2.111	5.000	
59	813226.08	2.029	5.000	
115	1024145.17	0.979	5.000	
140	1040670.93	1.175	5.000	
208	432638.27	0.611	5.000	
209	661697.19	0.578	5.000	
238	782637.03	0.586	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	11476	11738	11519	11607	11646
9	3467	3531	3497	3519	3591
24	31783	33728	32753	32913	32909
59	79803	82802	81411	83084	79512
115	101804	103972	102575	102400	101321
140	103665	104826	104060	105502	102283
208	43325	42922	43520	43061	43491
209	65530	66420	66151	66496	66252
238	78495	78350	77739	77874	78859

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)	W-5%	W-5% (Flag)	W-5% (Required)
7	18903.75	7.05	6.90 - 7.10		0.741		0.900
9	6100.08	9.05	8.90 - 9.10		0.776		0.900
24	53903.86	23.95	23.90 - 24.10		0.784		0.900

US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)	W-5%	W-5% (Flag)	W-5% (Required)
59	139202.43	58.95	58.90 - 59.10		0.785		0.900
115	194012.03	115.00	114.90 - 115.10		0.812		0.900
140	200056.06	140.00	139.90 - 140.10		0.813		0.900
208	79441.81	208.00	207.90 - 208.10		0.804		0.900
209	124646.70	209.00	208.90 - 209.10		0.799		0.900
238	143706.59	237.95	237.90 - 238.10		0.835		0.900

Integration Time [sec] 0.1
 Acquisition Time [sec] 268.4
 Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.57 L/min	Dilution Gas	0.50 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.76 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.8 V	Deflect	14.0 V
Extract 2	-165.0 V	Cell Entrance	-30 V	Plate Bias	-40 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0013	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.01		

Hardware Settings

Torch

Torch H	-0.1 mm	Torch V	1.0 mm
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EM

Discriminator	4.5 mV	Analog HV	1815 V	Pulse HV	1488 V
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Calibration Blank Report

Sample Name Blank
File Name 003CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 07:27:13
Sample Type CalBlk
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	CPS	CPS RSD
Al	27	6	No Gas	10743.35	12.8
Se	77	72	H2	2354.17	4.4
Se	78	72	H2	56.33	16.8
Cr	52	72	He	950.04	2.5
Cr	53	72	He	307.78	24.7
Ni	60	72	He	64.45	43.4
Ni	62	72	He	18.89	36.7
Cu	63	72	He	867.81	9.2
Cu	65	72	He	413.34	13.0
Zn	66	72	He	631.13	7.6
As	75	72	He	37.00	24.0
Mo	95	115	He	176.67	18.2
Mo	98	115	He	365.56	23.7
Ag	107	115	He	61.11	46.4
Ag	109	115	He	42.22	46.3
Cd	111	115	He	12.67	22.4
Cd	114	115	He	51.83	11.4
[Pb]	206	175	He	915.59	10.7
[Pb]	207	175	He	797.80	9.0
Pb	208	175	He	3707.98	2.4

3C
 8/1/25

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	631862.72	0.9
Sc	45	No Gas	17871068.18	0.6
Ge	72	H2	3428557.43	1.3
Sc	45	He	410812.74	0.9
Ge	72	He	381599.59	0.6
In	115	He	3827432.70	2.7
Lu	175	He	8955047.42	3.2
Th	232	He	14651428.53	0.5

Calibration Standard Report

Sample Name Calibration Standard
File Name 004CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 07:29:49
Sample Type CalStd
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	CPS	CPS RSD
Al	27	6	No Gas	25728717.31	4.3
Se	77	72	H2	36783.17	0.8
Se	78	72	H2	108798.89	0.8
Cr	52	72	He	692727.59	0.7
Cr	53	72	He	85486.86	0.7
Ni	60	72	He	403154.09	0.9
Ni	62	72	He	62896.60	0.4
Cu	63	72	He	1167939.02	0.8
Cu	65	72	He	579663.34	0.3
Zn	66	72	He	140936.52	0.8
As	75	72	He	85019.46	2.3
Mo	95	115	He	241644.64	1.6
Mo	98	115	He	419001.07	0.0
Ag	107	115	He	909596.39	0.8
Ag	109	115	He	901048.33	1.5
Cd	111	115	He	218311.33	0.6
Cd	114	115	He	570902.61	0.8
[Pb]	206	175	He	1200864.71	0.8
[Pb]	207	175	He	1017907.88	0.4
Pb	208	175	He	4805616.02	0.2

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	663476.03	1.1	631862.72	105	
Sc	45	No Gas	18960672.58	2.5	17871068.18	106.1	
Ge	72	H2	3461661.74	0.4	3428557.43	100.97	
Sc	45	He	412979.54	0.4	410812.74	100.53	
Ge	72	He	382074.44	1.5	381599.59	100.12	
In	115	He	3807422.50	1.6	3827432.7	99.48	
Lu	175	He	8940345.20	0.8	8955047.42	99.84	
Th	232	He	14584948.11	0.9	14651428.53	99.55	

Initial Calibration Verification (ICV) Report

Sample Name ICV
File Name 005_ICV.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:32:22
Sample Type ICV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	100.3866	ug/l	5.7	5148697.85	100.39	
Se	77	72	H2	24.0012	ug/l	1.4	19176.76	96	
Se	78	72	H2	24.2220	ug/l	1.4	53524.97	96.89	
Cr	52	72	He	9.6971	ug/l	1.9	34802.12	96.97	
Cr	53	72	He	9.8575	ug/l	0.6	17062.93	98.58	
Ni	60	72	He	23.4758	ug/l	1.0	188890.05	93.9	
Ni	62	72	He	23.6407	ug/l	1.7	29682.34	94.56	
Cu	63	72	He	11.6729	ug/l	0.9	272697.04	93.38	
Cu	65	72	He	11.8133	ug/l	0.8	136967.38	94.51	
Zn	66	72	He	23.9882	ug/l	0.3	67792.17	95.95	
As	75	72	He	24.6557	ug/l	0.7	41839.30	98.62	
Mo	95	115	He	24.5805	ug/l	1.5	237334.51	98.32	
Mo	98	115	He	24.4071	ug/l	1.4	408664.66	97.63	
Ag	107	115	He	12.0944	ug/l	0.8	439636.02	96.76	
Ag	109	115	He	12.0468	ug/l	0.6	433791.35	96.37	
Cd	111	115	He	12.0132	ug/l	0.8	52409.32	96.11	
Cd	114	115	He	11.9985	ug/l	1.0	136894.52	95.99	
[Pb]	206	175	He	23.9548	ug/l	0.6	583474.29	95.82	
[Pb]	207	175	He	23.1372	ug/l	0.1	477727.36	92.55	
Pb	208	175	He	23.1790	ug/l	0.6	2259384.27	92.72	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	659847.21	0.4	631862.72	104.43	
Sc	45	No Gas	18386289.82	0.9	17871068.18	102.88	
Ge	72	H2	3513797.08	1.0	3428557.43	102.49	
Sc	45	He	413497.57	0.8	410812.74	100.65	
Ge	72	He	381177.22	0.9	381599.59	99.89	
In	115	He	3803339.78	1.6	3827432.7	99.37	
Lu	175	He	9059027.14	1.1	8955047.42	101.16	
Th	232	He	14750884.78	1.5	14651428.53	100.68	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 006_CCV.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:34:57
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	250.7555	ug/l	5.2	13345792.80	100.3	
Se	77	72	H2	25.6199	ug/l	4.0	19349.30	102.48	
Se	78	72	H2	25.6309	ug/l	2.9	53967.97	102.52	
Cr	52	72	He	25.1194	ug/l	0.5	341686.63	100.48	
Cr	53	72	He	25.0888	ug/l	1.5	42205.78	100.36	
Ni	60	72	He	25.0264	ug/l	0.8	197881.08	100.11	
Ni	62	72	He	25.5221	ug/l	0.3	31487.75	102.09	
Cu	63	72	He	25.0790	ug/l	1.1	574761.11	100.32	
Cu	65	72	He	25.4340	ug/l	0.6	289298.77	101.74	
Zn	66	72	He	25.4693	ug/l	0.7	70692.60	101.88	
As	75	72	He	25.1236	ug/l	0.5	41894.49	100.49	
Mo	95	115	He	12.2834	ug/l	0.9	119790.76	98.27	
Mo	98	115	He	12.2863	ug/l	0.5	207802.01	98.29	
Ag	107	115	He	12.4466	ug/l	0.6	456599.81	99.57	
Ag	109	115	He	12.3270	ug/l	1.4	447926.58	98.62	
Cd	111	115	He	24.6555	ug/l	1.3	108535.06	98.62	
Cd	114	115	He	24.5781	ug/l	1.1	282943.77	98.31	
[Pb]	206	175	He	24.7830	ug/l	1.3	599291.14	99.13	
[Pb]	207	175	He	24.7049	ug/l	0.7	506376.23	98.82	
Pb	208	175	He	24.4665	ug/l	1.3	2367598.12	97.87	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	685910.32	1.5	631862.72	108.55	
Sc	45	No Gas	18755807.59	2.3	17871068.18	104.95	
Ge	72	H2	3349602.99	2.5	3428557.43	97.7	
Sc	45	He	407780.72	0.8	410812.74	99.26	
Ge	72	He	374566.12	0.4	381599.59	98.16	
In	115	He	3838196.44	1.1	3827432.7	100.28	
Lu	175	He	8993926.86	0.2	8955047.42	100.43	
Th	232	He	14443646.03	1.2	14651428.53	98.58	

Initial Calibration Blank (ICB) Report

Sample Name ICB
File Name 007_ICB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:37:32
Sample Type ICB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.0236	ug/l	124.7	12529.00	
Se	77	72	H2	0.0165	ug/l	242.4	2283.49	
Se	78	72	H2	0.0526	ug/l	15.7	163.67	
Cr	52	72	He	0.0090	ug/l	50.8	1037.81	
Cr	53	72	He	0.0233	ug/l	50.2	335.56	
Ni	60	72	He	0.0027	ug/l	72.7	83.34	
Ni	62	72	He	-0.0040	ug/l	N/A	13.33	
Cu	63	72	He	0.0007	ug/l	420.5	853.36	
Cu	65	72	He	0.0015	ug/l	259.7	415.56	
Zn	66	72	He	-0.0149	ug/l	N/A	568.90	
As	75	72	He	0.0128	ug/l	64.4	56.67	
Mo	95	115	He	0.0474	ug/l	4.7	625.57	
Mo	98	115	He	0.0436	ug/l	8.5	1081.16	
Ag	107	115	He	0.0008	ug/l	107.9	87.78	
Ag	109	115	He	0.0010	ug/l	81.9	77.78	
Cd	111	115	He	0.0037	ug/l	0.4	28.33	
Cd	114	115	He	0.0034	ug/l	30.1	89.67	
[Pb]	206	175	He	-0.0002	ug/l	N/A	888.92	
[Pb]	207	175	He	0.0039	ug/l	70.4	857.81	
Pb	208	175	He	0.0028	ug/l	51.7	3884.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	665167.84	1.2	631862.72	105.27	
Sc	45	No Gas	17693822.63	1.9	17871068.18	99.01	
Ge	72	H2	3308866.74	1.2	3428557.43	96.51	
Sc	45	He	398826.22	1.2	410812.74	97.08	
Ge	72	He	368401.23	0.4	381599.59	96.54	
In	115	He	3758442.00	2.7	3827432.7	98.2	
Lu	175	He	8745902.98	0.4	8955047.42	97.66	
Th	232	He	14414975.20	0.4	14651428.53	98.39	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 008_CCB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:40:09
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	-0.0066	ug/l	N/A	11020.19	
Se	77	72	H2	-0.1365	ug/l	N/A	2201.15	
Se	78	72	H2	0.0005	ug/l	949.0	56.00	
Cr	52	72	He	-0.0029	ug/l	N/A	874.47	
Cr	53	72	He	0.0262	ug/l	108.2	338.89	
Ni	60	72	He	-0.0015	ug/l	N/A	50.00	
Ni	62	72	He	-0.0040	ug/l	N/A	13.33	
Cu	63	72	He	-0.0015	ug/l	N/A	798.91	
Cu	65	72	He	0.0033	ug/l	90.6	433.34	
Zn	66	72	He	-0.0270	ug/l	N/A	533.35	
As	75	72	He	0.0001	ug/l	6509.7	35.67	
Mo	95	115	He	0.0164	ug/l	52.3	322.23	
Mo	98	115	He	0.0114	ug/l	62.7	536.68	
Ag	107	115	He	-0.0002	ug/l	N/A	51.11	
Ag	109	115	He	0.0008	ug/l	134.6	68.89	
Cd	111	115	He	0.0026	ug/l	11.0	23.33	
Cd	114	115	He	0.0022	ug/l	17.3	74.67	
[Pb]	206	175	He	-0.0002	ug/l	N/A	896.70	
[Pb]	207	175	He	0.0041	ug/l	32.0	871.14	
Pb	208	175	He	0.0002	ug/l	434.5	3681.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	667922.34	2.2	631862.72	105.71	
Sc	45	No Gas	17232316.54	0.8	17871068.18	96.43	
Ge	72	H2	3336935.07	0.4	3428557.43	97.33	
Sc	45	He	398277.64	0.7	410812.74	96.95	
Ge	72	He	366515.38	1.0	381599.59	96.05	
In	115	He	3688358.74	2.7	3827432.7	96.37	
Lu	175	He	8832977.70	0.8	8955047.42	98.64	
Th	232	He	14535683.53	2.1	14651428.53	99.21	

Low Level Initial Calibration Verification (LLICV) Report

Sample Name LLICVS
File Name 009LICV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 07:42:44
Sample Type LLICV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc.RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	4.4388	ug/l	4.4	247177.90	110.97	
Se	77	72	H2	0.9390	ug/l	1.2	2975.60	-93.9	
Se	78	72	H2	0.9566	ug/l	2.1	2103.14	95.66	
Cr	52	72	He	0.4061	ug/l	4.7	6295.64	101.52	
Cr	53	72	He	0.4059	ug/l	13.2	957.81	101.47	
Ni	60	72	He	0.3590	ug/l	4.4	2834.70	89.75	
Ni	62	72	He	0.3743	ug/l	14.0	468.90	93.58	
Cu	63	72	He	0.4037	ug/l	3.8	9856.21	100.92	
Cu	65	72	He	0.4041	ug/l	1.7	4881.85	101.02	
Zn	66	72	He	1.1227	ug/l	7.5	3621.52	112.27	
As	75	72	He	0.5052	ug/l	1.7	858.02	101.04	
Mo	95	115	He	0.0964	ug/l	11.2	1067.82	96.4	
Mo	98	115	He	0.0986	ug/l	5.5	1947.91	98.6	
Ag	107	115	He	0.0622	ug/l	51.5	2268.95	155.5	LLICV Failed
Ag	109	115	He	0.0414	ug/l	10.9	1480.08	103.5	
Cd	111	115	He	0.0430	ug/l	10.1	193.33	107.5	
Cd	114	115	He	0.0444	ug/l	5.1	539.51	111	
[Pb]	206	175	He	0.0978	ug/l	4.5	3220.36	97.8	
[Pb]	207	175	He	0.0972	ug/l	8.1	2740.27	97.2	
Pb	208	175	He	0.0977	ug/l	3.2	12925.59	97.7	

ALKLS
8/1/25

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	684332.70	1.2	631862.72	108.3	
Sc	45	No Gas	17969968.17	2.3	17871068.18	100.55	
Ge	72	H2	3406862.02	2.0	3428557.43	99.37	
Sc	45	He	394830.84	1.0	410812.74	96.11	
Ge	72	He	366024.27	1.3	381599.59	95.92	
In	115	He	3680363.56	3.4	3827432.7	96.16	
Lu	175	He	8830628.54	1.2	8955047.42	98.61	
Th	232	He	14400698.95	0.4	14651428.53	98.29	

Low Level Initial Calibration Verification (LLICV) Report

Sample Name LLICVS
File Name 010LICV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 07:50:26
Sample Type LLICV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc.RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	3.9128	ug/l	5.4	222775.63	97.82	
Se	77	72	H2	0.9451	ug/l	11.5	2873.92	-94.51	
Se	78	72	H2	0.9421	ug/l	1.3	1999.12	94.21	
Cr	52	72	He	0.3981	ug/l	1.6	6131.12	99.52	
Cr	53	72	He	0.3837	ug/l	10.8	913.36	95.92	
Ni	60	72	He	0.3519	ug/l	7.6	2753.57	87.98	
Ni	62	72	He	0.3871	ug/l	9.4	480.01	96.78	
Cu	63	72	He	0.3859	ug/l	0.8	9374.83	96.48	
Cu	65	72	He	0.4064	ug/l	5.0	4860.73	101.6	
Zn	66	72	He	1.0147	ug/l	0.5	3302.56	101.47	
As	75	72	He	0.4793	ug/l	7.3	808.35	95.86	
Mo	95	115	He	0.0856	ug/l	3.9	977.81	85.6	
Mo	98	115	He	0.0795	ug/l	3.8	1655.65	79.5	LLICV Failed
Ag	107	115	He	0.0366	ug/l	3.7	1356.73	91.5	
Ag	109	115	He	0.0399	ug/l	4.1	1444.52	99.75	
Cd	111	115	He	0.0379	ug/l	7.0	173.83	94.75	
Cd	114	115	He	0.0415	ug/l	3.7	512.01	103.75	
[Pb]	206	175	He	0.0930	ug/l	3.5	3120.34	93	
[Pb]	207	175	He	0.0915	ug/l	8.9	2635.80	91.5	
Pb	208	175	He	0.0899	ug/l	1.8	12235.33	89.9	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	695529.18	1.2	631862.72	110.08	
Sc	45	No Gas	17657015.97	1.6	17871068.18	98.8	
Ge	72	H2	3286088.06	1.0	3428557.43	95.84	
Sc	45	He	392091.20	2.0	410812.74	95.44	
Ge	72	He	362679.44	0.9	381599.59	95.04	
In	115	He	3712784.10	0.7	3827432.7	97	
Lu	175	He	8868842.43	1.5	8955047.42	99.04	
Th	232	He	14367546.45	1.3	14651428.53	98.06	

Interference Check Solution A (ICS-A) Report

Sample Name ICSA
File Name 011ICSA.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 07:54:00
Sample Type ICSA
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
 NoUser

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	ExpValue	CPS	QC Flag
Al	27	6	No Gas	19392.7903	ug/l	3.2	20000	1004938911.18	
Se	77	72	H2	-0.0521	ug/l	N/A	-1	2129.81	
Se	78	72	H2	0.0190	ug/l	10.2	-1	89.33	
Cr	52	72	He	0.2348	ug/l	3.0	-1	3778.22	
Cr	53	72	He	0.1678	ug/l	15.9	-1	534.46	
Ni	60	72	He	0.5489	ug/l	4.1	-1	4040.51	
Ni	62	72	He	0.5528	ug/l	8.9	-1	642.24	
Cu	63	72	He	0.5466	ug/l	2.4	-1	12259.99	
Cu	65	72	He	0.5588	ug/l	3.8	-1	6195.60	
Zn	66	72	He	0.6636	ug/l	7.9	-1	2244.61	
As	75	72	He	0.0807	ug/l	5.4	-1	156.67	
Mo	95	115	He	51.2190	ug/l	3.7	50	451250.56	
Mo	98	115	He	51.0377	ug/l	3.1	50	779737.68	
Ag	107	115	He	0.0095	ug/l	8.3	-1	372.23	
Ag	109	115	He	0.0093	ug/l	5.4	-1	344.45	
Cd	111	115	He	0.4132	ug/l	3.8	-1	1656.58	
Cd	114	115	He	0.3957	ug/l	3.1	-1	4167.03	
[Pb]	206	175	He	0.2335	ug/l	7.3	-1	6155.71	
[Pb]	207	175	He	0.2327	ug/l	0.6	-1	5227.59	
Pb	208	175	He	0.2266	ug/l	2.3	-1	24061.92	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	668349.07	1.6	631862.72	105.77	
Sc	45	No Gas	18533942.04	1.3	17871068.18	103.71	
Ge	72	H2	3148088.49	1.3	3428557.43	91.82	
Sc	45	He	372204.56	1.3	410812.74	90.6	
Ge	72	He	343743.66	0.7	381599.59	90.08	
In	115	He	3473660.10	2.9	3827432.7	90.76	
Lu	175	He	8448576.06	1.0	8955047.42	94.34	
Th	232	He	14099872.71	0.7	14651428.53	96.24	

Interference Check Solution AB (ICS-AB) Report

Sample Name ICSAB
File Name 012ICSB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:56:33
Sample Type ICSB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	ExpValue	CPS	QC Flag
Al	27	6	No Gas	22534.4726	ug/l	2.7	20000	1040904918.64	
Se	77	72	H2	24.1808	ug/l	0.4	25	17388.51	
Se	78	72	H2	24.4356	ug/l	1.1	25	48642.79	
Cr	52	72	He	50.3454	ug/l	0.6	50	623188.41	
Cr	53	72	He	50.2246	ug/l	1.6	50	76715.35	
Ni	60	72	He	48.0716	ug/l	0.8	50	346313.01	
Ni	62	72	He	48.5569	ug/l	1.2	50	54576.21	
Cu	63	72	He	47.8528	ug/l	0.5	50	998669.37	
Cu	65	72	He	48.5884	ug/l	0.9	50	503298.59	
Zn	66	72	He	24.4148	ug/l	1.4	25	61772.83	
As	75	72	He	25.4761	ug/l	0.8	25	38711.66	
Mo	95	115	He	51.3953	ug/l	1.8	50	442074.08	
Mo	98	115	He	51.6317	ug/l	2.0	50	770025.39	
Ag	107	115	He	12.8008	ug/l	2.1	12.5	414629.00	
Ag	109	115	He	12.6946	ug/l	2.2	12.5	407317.06	
Cd	111	115	He	25.4464	ug/l	1.5	25	98916.32	
Cd	114	115	He	24.5022	ug/l	1.8	25	249071.67	
[Pb]	206	175	He	0.2375	ug/l	4.0	-1	6401.38	
[Pb]	207	175	He	0.2220	ug/l	2.4	-1	5146.45	
Pb	208	175	He	0.2259	ug/l	1.5	-1	24595.64	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	596015.76	3.8	631862.72	94.33	
Sc	45	No Gas	14909576.63	4.7	17871068.18	83.43	
Ge	72	H2	3165216.40	0.5	3428557.43	92.32	
Sc	45	He	367404.92	1.1	410812.74	89.43	
Ge	72	He	341323.94	0.5	381599.59	89.45	
In	115	He	3389591.14	1.6	3827432.7	88.56	
Lu	175	He	8658872.99	1.6	8955047.42	96.69	
Th	232	He	14229929.79	1.0	14651428.53	97.12	

Sample Report

Sample Name MoSTD
File Name 013SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 07:59:08
Sample Type Sample
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	11.4938	ug/l	3.3	601536.19	
Se	77	72	H2	-0.0486	ug/l	N/A	2250.82	
Se	78	72	H2	0.0528	ug/l	8.7	165.00	
Cr	52	72	He	0.1268	ug/l	12.8	2559.10	
Cr	53	72	He	0.0190	ug/l	178.8	322.23	
Ni	60	72	He	0.0991	ug/l	12.4	816.69	
Ni	62	72	He	0.0952	ug/l	16.5	131.11	
Cu	63	72	He	0.0556	ug/l	6.1	2049.03	
Cu	65	72	He	0.0545	ug/l	8.5	988.93	
Zn	66	72	He	0.7275	ug/l	6.2	2529.10	
As	75	72	He	0.0044	ug/l	116.1	42.00	
Mo	95	115	He	48.9587	ug/l	1.5	466100.26	
Mo	98	115	He	49.0146	ug/l	2.2	809019.66	
Ag	107	115	He	0.0021	ug/l	25.1	134.44	
Ag	109	115	He	0.0023	ug/l	33.5	121.11	
Cd	111	115	He	0.0070	ug/l	15.1	42.50	
Cd	114	115	He	0.0059	ug/l	14.2	117.33	
[Pb]	206	175	He	-0.0081	ug/l	N/A	750.02	
[Pb]	207	175	He	-0.0085	ug/l	N/A	652.24	
Pb	208	175	He	-0.0086	ug/l	N/A	3005.70	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	662283.67	0.2	631862.72	104.81	
Sc	45	No Gas	16842958.77	0.7	17871068.18	94.25	
Ge	72	H2	3323759.80	0.9	3428557.43	96.94	
Sc	45	He	386492.78	0.4	410812.74	94.08	
Ge	72	He	361451.77	0.3	381599.59	94.72	
In	115	He	3751449.62	1.7	3827432.7	98.01	
Lu	175	He	9334818.79	0.7	8955047.42	104.24	
Th	232	He	15084781.44	0.7	14651428.53	102.96	

Sample Report

Sample Name LRASTD
File Name 014SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:09:56
Sample Type Sample
Comment - + 500
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	504.7178	ug/l	3.7	25763971.20	
Se	77	72	H2	518.3920	ug/l	1.0	340488.56	
Se	78	72	H2	516.8847	ug/l	0.5	1065880.54	
Cr	52	72	He	515.4964	ug/l	1.4	6453626.69	
Cr	53	72	He	519.1713	ug/l	0.2	800471.29	
Ni	60	72	He	516.3412	ug/l	1.4	3766057.91	
Ni	62	72	He	526.5798	ug/l	1.2	599130.16	
Cu	63	72	He	516.4426	ug/l	1.1	10906462.34	
Cu	65	72	He	522.6452	ug/l	1.3	5478903.25	
Zn	66	72	He	515.0618	ug/l	0.7	1308201.37	
As	75	72	He	506.8654	ug/l	0.9	779290.15	
Mo	95	115	He	497.7714	ug/l	0.3	4517208.29	
Mo	98	115	He	501.7228	ug/l	0.4	7894259.41	
Ag	107	115	He	0.0494	ug/l	7.8	1744.55	
Ag	109	115	He	0.0193	ug/l	9.9	691.13	
Cd	111	115	He	526.3493	ug/l	3.1	2158804.75	
Cd	114	115	He	503.4359	ug/l	0.2	5400071.83	
[Pb]	206	175	He	525.2100	ug/l	1.0	12222770.63	
[Pb]	207	175	He	524.2503	ug/l	2.7	10339814.03	
Pb	208	175	He	523.7747	ug/l	1.5	48775905.28	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	658128.15	1.8	631862.72	104.16	
Sc	45	No Gas	17388532.09	1.6	17871068.18	97.3	
Ge	72	H2	3282125.70	0.4	3428557.43	95.73	
Sc	45	He	381637.95	0.7	410812.74	92.9	
Ge	72	He	345644.42	0.7	381599.59	90.58	
In	115	He	3576644.53	0.7	3827432.7	93.45	
Lu	175	He	8668731.05	1.0	8955047.42	96.8	
Th	232	He	14573538.95	1.9	14651428.53	99.47	

Sample Report

Sample Name LRASTD
File Name 015SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:13:07
Sample Type Sample
Comment - +2000
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.9845	ug/l	2.9	61551.82	
Se	77	72	H2	2069.1223	ug/l	2.8	1297968.92	
Se	78	72	H2	2091.4162	ug/l	2.4	4139759.00	
Cr	52	72	He	1973.0980	ug/l	0.6	23621428.51	
Cr	53	72	He	2027.6323	ug/l	1.6	2988497.52	
Ni	60	72	He	1970.2954	ug/l	0.1	13743497.51	
Ni	62	72	He	2077.8353	ug/l	1.5	2261140.81	
Cu	63	72	He	2002.9707	ug/l	1.3	40445635.06	
Cu	65	72	He	2039.2483	ug/l	0.5	20440789.74	
Zn	66	72	He	2015.1714	ug/l	1.4	4893080.50	
As	75	72	He	2016.0785	ug/l	1.6	2964024.67	
Mo	95	115	He	0.4959	ug/l	4.5	4539.54	
Mo	98	115	He	0.5134	ug/l	4.2	8189.84	
Ag	107	115	He	0.0198	ug/l	7.9	712.24	
Ag	109	115	He	0.0201	ug/l	10.8	698.91	
Cd	111	115	He	0.1267	ug/l	5.0	517.51	
Cd	114	115	He	0.1254	ug/l	1.6	1355.06	
[Pb]	206	175	He	1990.0596	ug/l	1.9	46926759.24	
[Pb]	207	175	He	1971.4218	ug/l	2.0	39400560.66	
Pb	208	175	He	1975.4473	ug/l	1.7	186404793.70	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	659384.05	0.9	631862.72	104.36	
Sc	45	No Gas	16815429.89	1.0	17871068.18	94.09	
Ge	72	H2	3151718.97	2.3	3428557.43	91.93	
Sc	45	He	355726.15	1.2	410812.74	86.59	
Ge	72	He	330537.24	1.3	381599.59	86.62	
In	115	He	3478380.55	2.1	3827432.7	90.88	
Lu	175	He	8786035.49	2.5	8955047.42	98.11	
Th	232	He	14733928.11	1.7	14651428.53	100.56	

Prep Blank (PB) Report

Sample Name KQ2513498-03
File Name 016_PB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:35:19
Sample Type PB
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	1.5440	ug/l	10.1	90908.30	
Se	77	72	H2	0.0431	ug/l	167.5	2226.15	
Se	78	72	H2	0.0364	ug/l	24.8	125.67	
Cr	52	72	He	0.0786	ug/l	14.5	1786.77	
Cr	53	72	He	0.0051	ug/l	477.0	277.78	
Ni	60	72	He	0.0431	ug/l	12.6	361.12	
Ni	62	72	He	0.0575	ug/l	44.4	80.00	
Cu	63	72	He	0.0823	ug/l	7.3	2444.64	
Cu	65	72	He	0.0753	ug/l	10.0	1126.71	
Zn	66	72	He	0.1460	ug/l	18.9	913.36	
As	75	72	He	0.0346	ug/l	13.5	84.00	
Mo	95	115	He	0.0229	ug/l	52.3	373.34	
Mo	98	115	He	0.0244	ug/l	8.3	723.36	
Ag	107	115	He	-0.0002	ug/l	N/A	47.78	
Ag	109	115	He	-0.0003	ug/l	N/A	30.00	
Cd	111	115	He	0.0063	ug/l	33.0	37.50	
Cd	114	115	He	0.0508	ug/l	5.3	590.51	Flag
[Pb]	206	175	He	0.0330	ug/l	16.8	1696.78	
[Pb]	207	175	He	0.0347	ug/l	28.7	1490.09	
Pb	208	175	He	0.0340	ug/l	3.4	6921.79	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	664827.20	0.3	631862.72	105.22	
Sc	45	No Gas	16455799.35	2.0	17871068.18	92.08	
Ge	72	H2	3202351.33	2.0	3428557.43	93.4	
Sc	45	He	368188.65	3.3	410812.74	89.62	
Ge	72	He	335001.93	1.0	381599.59	87.79	
In	115	He	3557421.81	3.4	3827432.7	92.95	
Lu	175	He	8885814.09	3.5	8955047.42	99.23	
Th	232	He	14927141.86	4.1	14651428.53	101.88	

Laboratory Control Sample (LCS) Report

Sample Name KQ2513498-04
File Name 017_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:37:54
Sample Type LCS
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	QC Flag
Al	27	6	No Gas	376.2302	ug/l	4.2	19126503.13	400	94.06	
Se	77	72	H2	105.3474	ug/l	2.3	68114.53	100	105.35	
Se	78	72	H2	104.4414	ug/l	1.9	206708.64	100	104.44	
Cr	52	72	He	41.1631	ug/l	0.5	511230.22	40	102.91	
Cr	53	72	He	40.8411	ug/l	1.0	62628.07	40	102.1	
Ni	60	72	He	101.5894	ug/l	0.7	734021.62	100	101.59	
Ni	62	72	He	101.8580	ug/l	1.7	114819.91	100	101.86	
Cu	63	72	He	50.6568	ug/l	0.3	1060366.97	50	101.31	
Cu	65	72	He	51.0494	ug/l	1.1	530338.43	50	102.1	
Zn	66	72	He	101.6630	ug/l	0.1	256216.24	100	101.66	
As	75	72	He	100.9488	ug/l	0.3	153767.87	100	100.95	
Mo	95	115	He	102.4706	ug/l	1.4	908433.51	100	102.47	
Mo	98	115	He	104.7157	ug/l	4.7	1609128.65	100	104.72	
Ag	107	115	He	10.4560	ug/l	0.3	349176.86	10	104.56	
Ag	109	115	He	10.5208	ug/l	1.2	348016.01	10	105.21	
Cd	111	115	He	10.3381	ug/l	1.0	41434.05	10	103.38	
Cd	114	115	He	10.0340	ug/l	1.2	105178.99	10	100.34	
[Pb]	206	175	He	107.3710	ug/l	3.0	2563418.16	100	107.37	
[Pb]	207	175	He	103.7202	ug/l	2.1	2099414.36	100	103.72	
Pb	208	175	He	103.2909	ug/l	1.3	9870500.10	100	103.29	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	655236.26	0.4	631862.72	103.7	
Sc	45	No Gas	16316854.35	1.0	17871068.18	91.3	
Ge	72	H2	3150030.64	1.8	3428557.43	91.88	
Sc	45	He	361961.19	1.5	410812.74	88.11	
Ge	72	He	342362.60	1.0	381599.59	89.72	
In	115	He	3493780.31	1.2	3827432.7	91.28	
Lu	175	He	8893131.87	1.8	8955047.42	99.31	
Th	232	He	15031325.61	0.9	14651428.53	102.59	

Reference Sample Report

Sample Name K2507459-001
File Name 018_ARF.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:40:25
Sample Type AllRef
Comment 10X
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	7140.6826	ug/l	5.0	363893416.65	
Se	77	72	H2	0.5992	ug/l	16.1	2565.87	
Se	78	72	H2	0.4174	ug/l	6.8	887.03	
Cr	52	72	He	16.9518	ug/l	0.7	211123.20	
Cr	53	72	He	17.0859	ug/l	1.7	26370.11	
Ni	60	72	He	10.8969	ug/l	0.7	78816.72	
Ni	62	72	He	10.9385	ug/l	2.1	12348.96	
Cu	63	72	He	50.7492	ug/l	0.2	1062712.98	
Cu	65	72	He	50.8242	ug/l	1.5	528246.85	
Zn	66	72	He	32.8999	ug/l	0.9	83328.59	
As	75	72	He	1.5929	ug/l	3.8	2459.51	
Mo	95	115	He	1.0735	ug/l	1.3	9856.28	
Mo	98	115	He	1.0868	ug/l	0.8	17356.82	
Ag	107	115	He	0.0480	ug/l	2.6	1687.87	
Ag	109	115	He	0.0498	ug/l	5.7	1717.88	
Cd	111	115	He	0.0751	ug/l	4.8	318.33	
Cd	114	115	He	0.1212	ug/l	1.4	1341.23	
[Pb]	206	175	He	1.4755	ug/l	1.6	36037.64	
[Pb]	207	175	He	1.4660	ug/l	2.4	30375.52	
Pb	208	175	He	1.4603	ug/l	1.0	142803.50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	657219.00	0.4	631862.72	104.01	
Sc	45	No Gas	16812901.55	1.8	17871068.18	94.08	
Ge	72	H2	3184393.83	1.2	3428557.43	92.88	
Sc	45	He	371278.13	1.0	410812.74	90.38	
Ge	72	He	342492.85	0.7	381599.59	89.75	
In	115	He	3558772.70	1.8	3827432.7	92.98	
Lu	175	He	8868966.31	0.4	8955047.42	99.04	
Th	232	He	14911555.20	0.6	14651428.53	101.78	

Duplicate Sample Report

Sample Name QK2513498-01
File Name 019_Dup.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:42:59
Sample Type Dup
Total Dilution 1.0000
Comment 10X
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD Ref FileName Fail
QC Ref File Name 018_
Default Text ARKLS
 NoUser

QC Analyte Table

Name	Mass	Tune Mode	CPS	Conc.	Units	Conc. RSD	RPD	Flag
Al	27	No Gas	446782888.91	10947.8073	ug/l	4.6	42.09	Dup Fail
Se	77	H2	2322.83	0.2148	ug/l	56.0		< 5X MRL
Se	78	H2	499.34	0.2234	ug/l	5.2		< 5X MRL
Cr	52	He	222245.29	18.0007	ug/l	0.6	6	
Cr	53	He	26936.51	17.6065	ug/l	0.6	3	
Ni	60	He	79828.17	11.1308	ug/l	1.1	2.12	
Ni	62	He	12618.03	11.2721	ug/l	0.6	3	
Cu	63	He	1090664.71	52.5285	ug/l	0.3	3.45	
Cu	65	He	543917.86	52.7805	ug/l	1.0	3.78	
Zn	66	He	95426.48	38.0301	ug/l	0.3	14.47	
As	75	He	2554.20	1.6692	ug/l	4.1		< 5X MRL
Mo	95	He	8037.52	0.8926	ug/l	5.1	18.4	
Mo	98	He	14054.85	0.8969	ug/l	6.3	19.15	
Ag	107	He	1105.60	0.0316	ug/l	9.0		< 5X MRL
Ag	109	He	1181.16	0.0347	ug/l	4.7		< 5X MRL
Cd	111	He	320.83	0.0774	ug/l	8.1		< 5X MRL
Cd	114	He	1239.38	0.1143	ug/l	5.3		< 5X MRL
[Pb]	206	He	64141.60	2.6985	ug/l	0.6	58.6	Dup Fail
[Pb]	207	He	53376.50	2.6475	ug/l	1.8	57.45	Dup Fail
Pb	208	He	251319.97	2.6409	ug/l	0.7	57.58	Dup Fail

JC
 8/1/25

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	526883.82	4.0	631862.72	83.39	69.55	125.44	
Sc	45	No Gas	11797567.86	5.0	17871068.18	66.01	69.55	125.44	Flag
Ge	72	H2	3184345.01	0.4	3428557.43	92.88	69.55	125.44	
Sc	45	He	370636.39	0.8	410812.74	90.22	69.55	125.44	
Ge	72	He	339606.62	0.4	381599.59	89	69.55	125.44	
In	115	He	3481283.34	2.6	3827432.7	90.96	69.55	125.44	
Lu	175	He	8731008.26	0.2	8955047.42	97.5	69.55	125.44	
Th	232	He	14715169.78	1.3	14651428.53	100.44	69.55	125.44	

Sample Report

Sample Name K2507459-001L
File Name 020SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 08:45:33
Sample Type Sample
Comment 50X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	1388.1218	ug/l	3.4	73311434.87	
Se	77	72	H2	0.0044	ug/l	1092.3	2233.15	
Se	78	72	H2	0.0607	ug/l	14.9	177.33	
Cr	52	72	He	3.4710	ug/l	1.0	43616.96	
Cr	53	72	He	3.4547	ug/l	2.2	5515.35	
Ni	60	72	He	2.5210	ug/l	2.6	18158.53	
Ni	62	72	He	2.6675	ug/l	4.7	3004.74	
Cu	63	72	He	10.4308	ug/l	0.7	217594.41	
Cu	65	72	He	10.4683	ug/l	0.2	108373.66	
Zn	66	72	He	6.8682	ug/l	0.5	17725.90	
As	75	72	He	0.3417	ug/l	8.2	550.01	
Mo	95	115	He	0.2275	ug/l	4.9	2187.94	
Mo	98	115	He	0.2249	ug/l	4.5	3807.13	
Ag	107	115	He	0.0097	ug/l	16.1	380.01	
Ag	109	115	He	0.0104	ug/l	9.2	384.45	
Cd	111	115	He	0.0182	ug/l	8.9	85.00	
Cd	114	115	He	0.0259	ug/l	5.3	320.50	
[Pb]	206	175	He	0.6597	ug/l	4.5	16433.27	
[Pb]	207	175	He	0.6637	ug/l	5.0	14023.15	
Pb	208	175	He	0.6579	ug/l	2.0	65624.33	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	680741.78	1.5	631862.72	107.74	
Sc	45	No Gas	16722716.00	1.2	17871068.18	93.57	
Ge	72	H2	3247635.57	1.0	3428557.43	94.72	
Sc	45	He	370545.57	0.5	410812.74	90.2	
Ge	72	He	340223.54	0.5	381599.59	89.16	
In	115	He	3508387.70	0.9	3827432.7	91.66	
Lu	175	He	8771694.38	1.6	8955047.42	97.95	
Th	232	He	15162109.36	0.8	14651428.53	103.49	

Post Digestion Spike Sample (PDS) Report

Sample Name K2507459-001A
File Name 021_PDS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:48:07
Sample Type PDS
Comment 10X
ISTD Ref FileName 003CALB.d
QC Ref File Name 018_ ARF.
Default Text ALKLS
NoUser

QC Analyte Table

Name	Mass	Tune	Conc.	Units	Conc. RSD	CPS	Spk Amt	% Rec	Flag
Al	27	No Gas	7100.6692	ug/l	4.1	376409371.71	50	-80.03	Flag
Se	77	H2	53.7524	ug/l	0.6	35588.32	50	106.31	
Se	78	H2	53.2948	ug/l	0.1	104836.12	50	105.75	
Cr	52	He	70.1439	ug/l	0.5	861363.78	50	106.38	
Cr	53	He	70.5885	ug/l	0.9	106900.23	50	107.01	
Ni	60	He	63.1956	ug/l	0.4	451807.74	50	104.6	
Ni	62	He	63.8327	ug/l	1.8	71193.03	50	105.79	
Cu	63	He	105.0384	ug/l	0.9	2174581.65	50	108.58	
Cu	65	He	105.5511	ug/l	0.5	1084630.10	50	109.45	
Zn	66	He	85.8328	ug/l	0.6	214118.97	50	105.87	
As	75	He	53.2133	ug/l	0.6	80213.40	50	103.24	
Mo	95	He	52.8680	ug/l	1.5	465606.23	50	103.59	
Mo	98	He	52.7927	ug/l	1.5	806140.39	50	103.41	
Ag	107	He	10.8875	ug/l	1.9	361087.32	10	108.4	
Ag	109	He	10.8530	ug/l	1.2	356568.16	10	108.03	
Cd	111	He	52.3269	ug/l	1.2	208251.39	50	104.5	
Cd	114	He	51.4833	ug/l	0.9	535818.75	50	102.72	
[Pb]	206	He	52.5445	ug/l	0.9	1241132.17	50	102.14	
[Pb]	207	He	53.4701	ug/l	1.1	1070484.96	50	104.01	
Pb	208	He	54.2103	ug/l	1.3	5123810.49	50	105.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	683628.29	0.8	631862.72	108.19	
Sc	45	No Gas	16766679.33	1.3	17871068.18	93.82	
Ge	72	H2	3129516.06	1.4	3428557.43	91.28	
Sc	45	He	368369.76	0.4	410812.74	89.67	
Ge	72	He	338746.00	0.7	381599.59	88.77	
In	115	He	3470229.18	1.1	3827432.7	90.67	
Lu	175	He	8792460.76	0.7	8955047.42	98.18	
Th	232	He	15152945.61	1.2	14651428.53	103.42	

Matrix Spike Sample (MS) Report

Sample Name KQ2513498-02
File Name 022_Spk.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:50:41
Sample Type Spike
Comment 10X
ISTD Ref FileName 003CALB.d
QC Ref File Name 018_
 ARF.
Default Text ALKLS
 NoUser

QC Analyte Table

Name	Mass	Tune	Conc.	Units	Conc. RSD	CPS	Spk Amt	% Rec	Flag
Al	27	No Gas	7748.5116	ug/l	3.4	408481405.99	400	151.96	Flag
Se	77	H2	103.2062	ug/l	2.4	66742.14	100	102.61	
Se	78	H2	104.5150	ug/l	2.6	206735.06	100	104.1	
Cr	52	He	61.5373	ug/l	1.2	747532.76	40	111.46	
Cr	53	He	62.0002	ug/l	1.6	92900.51	40	112.29	
Ni	60	He	113.6970	ug/l	1.6	803905.39	100	102.8	
Ni	62	He	114.0295	ug/l	0.8	125783.35	100	103.09	
Cu	63	He	110.9198	ug/l	2.0	2271167.90	50	120.34	
Cu	65	He	111.0978	ug/l	0.6	1129179.29	50	120.55	
Zn	66	He	135.4702	ug/l	1.3	333933.04	100	102.57	
As	75	He	103.9486	ug/l	0.7	154953.96	100	102.36	
Mo	95	He	102.9516	ug/l	1.6	898667.78	100	101.88	
Mo	98	He	105.6961	ug/l	2.2	1599578.58	100	104.61	
Ag	107	He	10.3525	ug/l	2.0	340364.29	10	103.04	
Ag	109	He	10.4473	ug/l	1.4	340270.55	10	103.97	
Cd	111	He	10.2846	ug/l	1.3	40586.79	10	102.1	
Cd	114	He	10.0543	ug/l	1.5	103769.63	10	99.33	
[Pb]	206	He	108.9748	ug/l	2.8	2590572.40	100	107.5	
[Pb]	207	He	105.1965	ug/l	0.6	2119891.24	100	103.73	
Pb	208	He	104.3679	ug/l	0.7	9929535.93	100	102.91	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	679931.19	1.0	631862.72	107.61	
Sc	45	No Gas	16644313.23	1.4	17871068.18	93.14	
Ge	72	H2	3148713.07	2.0	3428557.43	91.84	
Sc	45	He	368463.88	1.1	410812.74	89.69	
Ge	72	He	335070.48	1.1	381599.59	87.81	
In	115	He	3440465.51	1.8	3827432.7	89.89	
Lu	175	He	8853303.81	0.8	8955047.42	98.86	
Th	232	He	14933963.95	1.5	14651428.53	101.93	

Sample Report

Sample Name K2507459-002
File Name 023SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:53:11
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8243.2763	ug/l	5.1	440638489.16	
Se	77	72	H2	0.5389	ug/l	16.4	2487.52	
Se	78	72	H2	0.4735	ug/l	2.7	983.70	
Cr	52	72	He	21.7389	ug/l	1.4	263686.04	
Cr	53	72	He	21.7081	ug/l	2.0	32587.26	
Ni	60	72	He	13.0662	ug/l	0.7	92115.60	
Ni	62	72	He	13.4835	ug/l	0.9	14835.34	
Cu	63	72	He	63.9199	ug/l	0.5	1304606.06	
Cu	65	72	He	63.9184	ug/l	0.6	647507.77	
Zn	66	72	He	37.0353	ug/l	1.1	91374.70	
As	75	72	He	1.8470	ug/l	3.0	2775.23	
Mo	95	115	He	1.4516	ug/l	4.0	13037.35	
Mo	98	115	He	1.4431	ug/l	2.2	22526.34	
Ag	107	115	He	0.0406	ug/l	2.6	1413.41	
Ag	109	115	He	0.0374	ug/l	1.9	1275.62	
Cd	111	115	He	0.0703	ug/l	3.6	293.33	
Cd	114	115	He	0.1133	ug/l	2.6	1235.22	
[Pb]	206	175	He	3.3242	ug/l	1.7	78678.32	
[Pb]	207	175	He	3.2823	ug/l	1.2	65882.21	
Pb	208	175	He	3.2806	ug/l	1.1	310818.97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	689457.04	0.9	631862.72	109.12	
Sc	45	No Gas	16894599.88	0.4	17871068.18	94.54	
Ge	72	H2	3133820.08	1.3	3428557.43	91.4	
Sc	45	He	367385.29	1.2	410812.74	89.43	
Ge	72	He	333871.37	0.3	381599.59	87.49	
In	115	He	3495940.81	0.3	3827432.7	91.34	
Lu	175	He	8717242.71	0.6	8955047.42	97.34	
Th	232	He	14819331.45	1.5	14651428.53	101.15	

Sample Report

Sample Name K2507459-003
File Name 024SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:55:46
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	7697.7019	ug/l	3.2	411660916.97	
Se	77	72	H2	0.2866	ug/l	26.3	2341.50	
Se	78	72	H2	0.2305	ug/l	7.7	507.68	
Cr	52	72	He	19.2856	ug/l	0.5	235546.53	
Cr	53	72	He	19.3226	ug/l	1.3	29225.83	
Ni	60	72	He	12.1288	ug/l	0.8	86065.65	
Ni	62	72	He	12.2822	ug/l	2.0	13602.10	
Cu	63	72	He	54.8908	ug/l	0.4	1127720.79	
Cu	65	72	He	55.5222	ug/l	0.9	566150.10	
Zn	66	72	He	36.6712	ug/l	0.9	91067.84	
As	75	72	He	1.7791	ug/l	4.2	2692.22	
Mo	95	115	He	0.9637	ug/l	5.6	8752.35	
Mo	98	115	He	0.9702	ug/l	3.1	15340.45	
Ag	107	115	He	0.0277	ug/l	6.3	985.59	
Ag	109	115	He	0.0277	ug/l	3.5	960.04	
Cd	111	115	He	0.0729	ug/l	3.6	305.67	
Cd	114	115	He	0.1178	ug/l	4.4	1289.05	
[Pb]	206	175	He	2.0340	ug/l	0.7	49242.72	
[Pb]	207	175	He	1.9997	ug/l	0.7	41068.98	
Pb	208	175	He	2.0051	ug/l	0.5	194347.63	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	689653.78	0.5	631862.72	109.15	
Sc	45	No Gas	16912333.22	1.2	17871068.18	94.64	
Ge	72	H2	3148615.50	1.4	3428557.43	91.83	
Sc	45	He	368882.09	0.5	410812.74	89.79	
Ge	72	He	336046.96	0.7	381599.59	88.06	
In	115	He	3514642.66	1.3	3827432.7	91.83	
Lu	175	He	8852479.65	0.2	8955047.42	98.85	
Th	232	He	15026283.11	1.5	14651428.53	102.56	

Sample Report

Sample Name K2507459-004
File Name 025SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 08:58:21
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9724.0242	ug/l	4.0	525192992.47	
Se	77	72	H2	0.5535	ug/l	18.9	2490.19	
Se	78	72	H2	0.3431	ug/l	3.5	725.35	
Cr	52	72	He	21.0950	ug/l	0.1	257187.25	
Cr	53	72	He	21.0599	ug/l	1.0	31781.40	
Ni	60	72	He	15.5078	ug/l	1.1	109864.96	
Ni	62	72	He	15.4737	ug/l	1.3	17108.57	
Cu	63	72	He	69.0101	ug/l	0.6	1415497.23	
Cu	65	72	He	69.5434	ug/l	0.6	707987.42	
Zn	66	72	He	74.7688	ug/l	0.2	184831.68	
As	75	72	He	12.9770	ug/l	1.3	19400.99	
Mo	95	115	He	1.4931	ug/l	0.1	13006.24	
Mo	98	115	He	1.4900	ug/l	2.0	22557.50	
Ag	107	115	He	0.2339	ug/l	1.2	7636.25	
Ag	109	115	He	0.2370	ug/l	2.7	7649.60	
Cd	111	115	He	0.1364	ug/l	3.8	541.68	
Cd	114	115	He	0.1762	ug/l	0.9	1838.27	
[Pb]	206	175	He	7.8210	ug/l	1.4	184729.44	
[Pb]	207	175	He	7.7191	ug/l	0.2	154570.49	
Pb	208	175	He	7.6876	ug/l	0.6	726722.95	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	696566.01	1.0	631862.72	110.24	
Sc	45	No Gas	16869238.78	2.3	17871068.18	94.39	
Ge	72	H2	3125778.21	1.2	3428557.43	91.17	
Sc	45	He	369366.63	0.3	410812.74	89.91	
Ge	72	He	335544.13	0.3	381599.59	87.93	
In	115	He	3391980.41	0.2	3827432.7	88.62	
Lu	175	He	8756043.26	0.7	8955047.42	97.78	
Th	232	He	14952184.36	1.3	14651428.53	102.05	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 026_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:00:56
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	228.9878	ug/l	4.1	12321543.12	91.6	
Se	77	72	H2	24.9171	ug/l	1.3	18175.00	99.67	
Se	78	72	H2	25.1515	ug/l	0.5	50974.85	100.61	
Cr	52	72	He	25.2640	ug/l	1.1	317912.90	101.06	
Cr	53	72	He	24.9280	ug/l	0.5	38799.97	99.71	
Ni	60	72	He	25.0437	ug/l	1.4	183192.12	100.17	
Ni	62	72	He	25.0103	ug/l	3.2	28539.24	100.04	
Cu	63	72	He	25.4609	ug/l	1.7	539781.54	101.84	
Cu	65	72	He	25.6352	ug/l	1.4	269742.19	102.54	
Zn	66	72	He	25.5767	ug/l	0.5	65674.98	102.31	
As	75	72	He	24.7961	ug/l	1.1	38252.97	99.18	
Mo	95	115	He	12.0555	ug/l	2.7	111106.34	96.44	
Mo	98	115	He	12.1636	ug/l	2.0	194428.54	97.31	
Ag	107	115	He	12.3958	ug/l	1.4	429788.27	99.17	
Ag	109	115	He	12.3864	ug/l	1.5	425418.90	99.09	
Cd	111	115	He	24.7101	ug/l	1.7	102809.31	98.84	
Cd	114	115	He	24.5937	ug/l	2.0	267579.44	98.37	
[Pb]	206	175	He	25.0481	ug/l	0.9	586814.34	100.19	
[Pb]	207	175	He	25.3339	ug/l	0.7	503067.33	101.34	
Pb	208	175	He	25.2033	ug/l	1.1	2362730.71	100.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	693253.86	0.4	631862.72	109.72	
Sc	45	No Gas	17267555.98	1.1	17871068.18	96.62	
Ge	72	H2	3222582.86	0.4	3428557.43	93.99	
Sc	45	He	372319.51	1.7	410812.74	90.63	
Ge	72	He	346549.73	1.5	381599.59	90.82	
In	115	He	3628124.52	1.9	3827432.7	94.79	
Lu	175	He	8714216.60	1.5	8955047.42	97.31	
Th	232	He	14993621.45	0.6	14651428.53	102.34	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 027_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:03:31
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.4669	ug/l	5.1	34746.25	
Se	77	72	H2	-0.1211	ug/l	N/A	2154.81	
Se	78	72	H2	0.0698	ug/l	2.2	196.00	
Cr	52	72	He	0.0128	ug/l	18.7	1015.59	
Cr	53	72	He	0.0154	ug/l	59.9	301.12	
Ni	60	72	He	0.0010	ug/l	259.7	65.56	
Ni	62	72	He	-0.0013	ug/l	N/A	15.56	
Cu	63	72	He	0.0100	ug/l	42.2	992.26	
Cu	65	72	He	0.0056	ug/l	43.6	431.12	
Zn	66	72	He	0.0181	ug/l	156.8	614.46	
As	75	72	He	0.0366	ug/l	14.3	89.33	
Mo	95	115	He	0.0555	ug/l	19.7	655.57	
Mo	98	115	He	0.0564	ug/l	9.5	1207.83	
Ag	107	115	He	-0.0004	ug/l	N/A	41.11	
Ag	109	115	He	0.0009	ug/l	41.3	67.78	
Cd	111	115	He	0.0056	ug/l	15.6	34.33	
Cd	114	115	He	0.0060	ug/l	13.0	110.50	
[Pb]	206	175	He	0.0016	ug/l	338.0	962.26	
[Pb]	207	175	He	-0.0024	ug/l	N/A	756.69	
Pb	208	175	He	0.0002	ug/l	391.3	3763.54	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	653268.01	0.8	631862.72	103.39	
Sc	45	No Gas	16907489.88	2.2	17871068.18	94.61	
Ge	72	H2	3251510.15	0.3	3428557.43	94.84	
Sc	45	He	372821.75	1.2	410812.74	90.75	
Ge	72	He	343921.31	0.7	381599.59	90.13	
In	115	He	3509186.80	0.5	3827432.7	91.69	
Lu	175	He	9032580.20	1.3	8955047.42	100.87	
Th	232	He	15038323.94	1.5	14651428.53	102.64	

Duplicate Sample Report

Sample Name KQ2513498-01
File Name 028_Dup.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:06:06
Sample Type Dup
Total Dilution 1.0000
Comment 10X
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD Ref FileName Pass
QC Ref File Name 018_
Default Text AERLS
 NoUser

QC Analyte Table

Name	Mass	Tune Mode	CPS	Conc.	Units	Conc. RSD	RPD	Flag
Al	27	No Gas	385551504.68	7533.7808	ug/l	3.0	5.36	
Se	77	H2	2410.84	0.2904	ug/l	13.0		< 5X MRL
Se	78	H2	433.34	0.1868	ug/l	3.8		< 5X MRL
Cr	52	He	222843.79	18.1769	ug/l	3.4	6.98	
Cr	53	He	27578.71	18.1632	ug/l	4.3	6.11	
Ni	60	He	80292.57	11.2724	ug/l	2.8	3.39	
Ni	62	He	12844.86	11.5613	ug/l	5.3	5.54	
Cu	63	He	1092881.80	53.0169	ug/l	4.2	4.37	
Cu	65	He	552998.01	54.0486	ug/l	4.1	6.15	
Zn	66	He	96577.43	38.7774	ug/l	4.6	16.4	
As	75	He	2702.89	1.7810	ug/l	5.9		< 5X MRL
Mo	95	He	7586.19	0.8351	ug/l	5.4	24.98	Dup Fail
Mo	98	He	13208.62	0.8370	ug/l	4.2	25.97	Dup Fail
Ag	107	He	1062.26	0.0302	ug/l	10.4		< 5X MRL
Ag	109	He	1086.71	0.0317	ug/l	5.6		< 5X MRL
Cd	111	He	298.83	0.0716	ug/l	4.7		< 5X MRL
Cd	114	He	1229.72	0.1128	ug/l	4.6		< 5X MRL
[Pb]	206	He	62124.37	2.6031	ug/l	5.1	55.29	Dup Fail
[Pb]	207	He	51833.52	2.5603	ug/l	4.4	54.36	Dup Fail
Pb	208	He	244794.72	2.5616	ug/l	4.1	54.77	Dup Fail

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	659818.52	1.0	631862.72	104.42	69.55	125.44	
Sc	45	No Gas	17175625.98	0.7	17871068.18	96.11	69.55	125.44	
Ge	72	H2	3238247.02	0.4	3428557.43	94.45	69.55	125.44	
Sc	45	He	374524.96	4.7	410812.74	91.17	69.55	125.44	
Ge	72	He	337573.46	4.4	381599.59	88.46	69.55	125.44	
In	115	He	3499198.47	3.4	3827432.7	91.42	69.55	125.44	
Lu	175	He	8772767.15	3.8	8955047.42	97.96	69.55	125.44	
Th	232	He	14691168.95	5.4	14651428.53	100.27	69.55	125.44	

Sample Report

Sample Name K2507459-005
File Name 029SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:08:41
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9997.2111	ug/l	5.2	545486982.77	
Se	77	72	H2	0.8137	ug/l	10.3	2695.22	
Se	78	72	H2	0.4208	ug/l	6.0	892.03	
Cr	52	72	He	21.3970	ug/l	0.8	268180.36	
Cr	53	72	He	21.1488	ug/l	1.0	32811.03	
Ni	60	72	He	17.4531	ug/l	1.1	127111.20	
Ni	62	72	He	17.5035	ug/l	0.7	19893.79	
Cu	63	72	He	81.2825	ug/l	0.6	1713914.00	
Cu	65	72	He	81.4933	ug/l	0.4	852892.83	
Zn	66	72	He	85.6069	ug/l	0.4	217486.97	
As	75	72	He	23.5991	ug/l	0.4	36245.62	
Mo	95	115	He	1.8953	ug/l	3.3	17231.14	
Mo	98	115	He	1.9106	ug/l	1.0	30174.98	
Ag	107	115	He	0.3421	ug/l	1.6	11659.70	
Ag	109	115	He	0.3397	ug/l	4.5	11452.92	
Cd	111	115	He	0.1962	ug/l	5.6	810.19	
Cd	114	115	He	0.2355	ug/l	1.6	2555.03	
[Pb]	206	175	He	10.2823	ug/l	0.7	244537.52	
[Pb]	207	175	He	10.2078	ug/l	1.1	205815.05	
Pb	208	175	He	10.1603	ug/l	0.6	967031.70	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	703609.19	0.6	631862.72	111.35	
Sc	45	No Gas	17564368.19	1.3	17871068.18	98.28	
Ge	72	H2	3177357.17	2.6	3428557.43	92.67	
Sc	45	He	378525.92	0.8	410812.74	92.14	
Ge	72	He	344970.90	0.3	381599.59	90.4	
In	115	He	3549963.60	1.4	3827432.7	92.75	
Lu	175	He	8826721.59	1.1	8955047.42	98.57	
Th	232	He	15052015.19	1.5	14651428.53	102.73	

Sample Report

Sample Name K2507459-006
File Name 030SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:11:16
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	10677.4862	ug/l	4.9	585034376.75	
Se	77	72	H2	0.4783	ug/l	26.9	2522.86	
Se	78	72	H2	0.3238	ug/l	3.8	710.02	
Cr	52	72	He	24.0563	ug/l	1.2	298297.30	
Cr	53	72	He	24.2536	ug/l	1.9	37197.67	
Ni	60	72	He	19.7275	ug/l	0.9	142189.31	
Ni	62	72	He	19.8433	ug/l	0.3	22318.99	
Cu	63	72	He	79.9227	ug/l	1.9	1667944.48	
Cu	65	72	He	77.3766	ug/l	1.2	801479.07	
Zn	66	72	He	88.2740	ug/l	1.0	221931.56	
As	75	72	He	15.3613	ug/l	0.9	23361.93	
Mo	95	115	He	1.5457	ug/l	1.3	14123.81	
Mo	98	115	He	1.5316	ug/l	0.8	24322.23	
Ag	107	115	He	0.3018	ug/l	2.5	10321.05	
Ag	109	115	He	0.3015	ug/l	2.2	10197.65	
Cd	111	115	He	0.1902	ug/l	2.4	788.02	
Cd	114	115	He	0.2465	ug/l	2.5	2679.89	
[Pb]	206	175	He	8.1290	ug/l	0.5	196658.86	
[Pb]	207	175	He	8.0822	ug/l	0.3	165753.74	
Pb	208	175	He	8.0208	ug/l	0.7	776582.06	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	706329.68	2.0	631862.72	111.79	
Sc	45	No Gas	17561233.75	2.9	17871068.18	98.27	
Ge	72	H2	3228009.11	1.9	3428557.43	94.15	
Sc	45	He	378383.12	0.6	410812.74	92.11	
Ge	72	He	341428.43	0.8	381599.59	89.47	
In	115	He	3559380.51	1.1	3827432.7	93	
Lu	175	He	8969704.92	0.4	8955047.42	100.16	
Th	232	He	15111778.11	1.2	14651428.53	103.14	

Sample Report

Sample Name K2507459-007
File Name 031SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:13:49
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	7273.7006	ug/l	3.5	397379717.54	
Se	77	72	H2	1.0420	ug/l	3.5	2901.25	
Se	78	72	H2	0.9988	ug/l	1.2	2089.80	
Cr	52	72	He	9.8646	ug/l	2.2	124699.48	
Cr	53	72	He	9.7943	ug/l	1.1	15420.27	
Ni	60	72	He	30.7692	ug/l	1.3	225138.66	
Ni	62	72	He	30.8852	ug/l	2.0	35260.62	
Cu	63	72	He	27.5568	ug/l	1.3	584392.12	
Cu	65	72	He	27.9203	ug/l	0.1	293889.56	
Zn	66	72	He	221.0344	ug/l	0.2	563382.55	
As	75	72	He	17.8485	ug/l	0.8	27554.81	
Mo	95	115	He	5.7586	ug/l	2.1	52914.28	
Mo	98	115	He	5.8440	ug/l	2.9	93147.55	
Ag	107	115	He	0.0666	ug/l	6.7	2355.74	
Ag	109	115	He	0.0689	ug/l	0.1	2396.86	
Cd	111	115	He	2.4964	ug/l	1.0	10349.39	
Cd	114	115	He	2.4711	ug/l	0.9	26807.41	
[Pb]	206	175	He	2.6145	ug/l	1.4	63844.73	
[Pb]	207	175	He	2.5324	ug/l	2.2	52460.95	
Pb	208	175	He	2.5462	ug/l	1.5	248953.48	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	704771.74	1.8	631862.72	111.54	
Sc	45	No Gas	17209980.98	1.3	17871068.18	96.3	
Ge	72	H2	3245410.35	0.8	3428557.43	94.66	
Sc	45	He	380799.29	1.1	410812.74	92.69	
Ge	72	He	346661.96	0.9	381599.59	90.84	
In	115	He	3610960.73	1.6	3827432.7	94.34	
Lu	175	He	8966746.59	1.3	8955047.42	100.13	
Th	232	He	15089087.28	0.6	14651428.53	102.99	

Sample Report

Sample Name K2507459-008
File Name 032SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:16:23
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9881.8301	ug/l	5.9	53159644.1.10	
Se	77	72	H2	2.7666	ug/l	7.5	3999.81	
Se	78	72	H2	2.4677	ug/l	1.7	5068.10	
Cr	52	72	He	52.9110	ug/l	0.5	663704.42	
Cr	53	72	He	52.2689	ug/l	0.9	80898.64	
Ni	60	72	He	51.9225	ug/l	0.6	379086.05	
Ni	62	72	He	52.3468	ug/l	0.5	59623.89	
Cu	63	72	He	47.1703	ug/l	0.6	997643.81	
Cu	65	72	He	47.3833	ug/l	0.9	497396.49	
Zn	66	72	He	104.7762	ug/l	0.4	266776.92	
As	75	72	He	10.7245	ug/l	1.2	16533.66	
Mo	95	115	He	1.6088	ug/l	1.8	14622.01	
Mo	98	115	He	1.6217	ug/l	2.3	25609.64	
Ag	107	115	He	0.1141	ug/l	4.4	3919.38	
Ag	109	115	He	0.1123	ug/l	6.6	3807.13	
Cd	111	115	He	0.7996	ug/l	1.4	3259.99	
Cd	114	115	He	0.8142	ug/l	0.6	8697.28	
[Pb]	206	175	He	3.2337	ug/l	1.0	77521.14	
[Pb]	207	175	He	3.1143	ug/l	1.6	63328.37	
Pb	208	175	He	3.1284	ug/l	1.4	300268.25	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	693868.82	0.9	631862.72	109.81	
Sc	45	No Gas	17574213.19	0.9	17871068.18	98.34	
Ge	72	H2	3235084.87	1.3	3428557.43	94.36	
Sc	45	He	387141.45	1.3	410812.74	94.24	
Ge	72	He	345912.08	0.9	381599.59	90.65	
In	115	He	3542493.01	1.2	3827432.7	92.56	
Lu	175	He	8826620.20	1.2	8955047.42	98.57	
Th	232	He	14863856.86	0.2	14651428.53	101.45	

Sample Report

Sample Name K2507459-009
File Name 033SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:18:58
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8236.7982	ug/l	3.7	444110773.46	
Se	77	72	H2	2.3186	ug/l	10.2	3683.74	
Se	78	72	H2	2.0754	ug/l	2.0	4238.87	
Cr	52	72	He	44.3039	ug/l	0.3	559691.87	
Cr	53	72	He	44.4545	ug/l	0.7	69318.72	
Ni	60	72	He	30.1741	ug/l	1.4	221814.20	
Ni	62	72	He	30.7598	ug/l	1.5	35281.69	
Cu	63	72	He	27.1887	ug/l	1.2	579327.46	
Cu	65	72	He	27.2327	ug/l	1.3	287979.97	
Zn	66	72	He	63.9656	ug/l	0.2	164209.46	
As	75	72	He	13.2616	ug/l	1.1	20579.37	
Mo	95	115	He	1.4443	ug/l	1.7	13489.94	
Mo	98	115	He	1.4458	ug/l	5.0	23459.86	
Ag	107	115	He	0.1327	ug/l	0.4	4668.47	
Ag	109	115	He	0.1323	ug/l	3.4	4595.12	
Cd	111	115	He	0.3156	ug/l	2.9	1327.55	
Cd	114	115	He	0.3495	ug/l	3.8	3858.29	
[Pb]	206	175	He	6.7893	ug/l	1.4	165489.63	
[Pb]	207	175	He	6.4376	ug/l	2.5	133046.37	
Pb	208	175	He	6.4892	ug/l	1.3	633160.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	695282.94	1.3	631862.72	110.04	
Sc	45	No Gas	17686212.63	0.5	17871068.18	98.97	
Ge	72	H2	3210227.30	0.7	3428557.43	93.63	
Sc	45	He	383028.09	0.1	410812.74	93.24	
Ge	72	He	348283.15	0.8	381599.59	91.27	
In	115	He	3636373.08	2.4	3827432.7	95.01	
Lu	175	He	9030107.42	1.5	8955047.42	100.84	
Th	232	He	15274659.77	0.8	14651428.53	104.25	

Sample Report

Sample Name K2507459-010
File Name 034SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:21:32
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	14508.2289	ug/l	5.4	801708821.48	
Se	77	72	H2	1.9982	ug/l	11.0	3549.04	
Se	78	72	H2	1.9031	ug/l	0.8	3969.47	
Cr	52	72	He	94.0662	ug/l	0.5	1177966.51	
Cr	53	72	He	93.4005	ug/l	1.2	144182.41	
Ni	60	72	He	53.6617	ug/l	1.4	391332.56	
Ni	62	72	He	53.9866	ug/l	0.6	61421.26	
Cu	63	72	He	48.5584	ug/l	0.7	1025852.18	
Cu	65	72	He	48.6628	ug/l	1.2	510257.05	
Zn	66	72	He	105.9022	ug/l	0.6	269339.82	
As	75	72	He	13.4915	ug/l	2.0	20769.61	
Mo	95	115	He	1.9172	ug/l	0.7	17402.43	
Mo	98	115	He	1.8396	ug/l	0.1	29017.36	
Ag	107	115	He	0.0664	ug/l	2.8	2305.74	
Ag	109	115	He	0.0694	ug/l	1.2	2367.97	
Cd	111	115	He	0.5738	ug/l	0.5	2344.00	
Cd	114	115	He	0.6046	ug/l	0.7	6473.60	
[Pb]	206	175	He	3.5880	ug/l	1.2	86783.31	
[Pb]	207	175	He	3.4665	ug/l	0.9	71124.06	
Pb	208	175	He	3.4749	ug/l	0.5	336519.53	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	712712.79	0.9	631862.72	112.8	
Sc	45	No Gas	18504458.71	0.5	17871068.18	103.54	
Ge	72	H2	3274737.72	1.6	3428557.43	95.51	
Sc	45	He	393045.10	0.9	410812.74	95.68	
Ge	72	He	345524.39	0.3	381599.59	90.55	
In	115	He	3543911.47	1.1	3827432.7	92.59	
Lu	175	He	8916055.20	1.3	8955047.42	99.56	
Th	232	He	14995821.86	0.6	14651428.53	102.35	

Sample Report

Sample Name K2507459-011
File Name 035SMPL.d
Data Path Name D:\Agilent\ICPMH1\1\DATA\080125A.b
Acq Time 2025-08-01 09:24:06
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9746.7546	ug/l	6.8	534580049.87	
Se	77	72	H2	0.3874	ug/l	54.3	2471.52	
Se	78	72	H2	0.3639	ug/l	3.8	793.35	
Cr	52	72	He	57.4012	ug/l	0.8	712557.78	
Cr	53	72	He	57.4817	ug/l	1.1	88027.59	
Ni	60	72	He	34.2109	ug/l	1.0	247215.89	
Ni	62	72	He	34.2354	ug/l	1.2	38598.75	
Cu	63	72	He	24.2644	ug/l	0.9	508310.60	
Cu	65	72	He	24.4166	ug/l	0.5	253861.58	
Zn	66	72	He	67.7577	ug/l	0.4	170950.99	
As	75	72	He	11.4796	ug/l	1.1	17514.63	
Mo	95	115	He	0.9153	ug/l	5.8	8464.42	
Mo	98	115	He	0.9264	ug/l	4.5	14910.05	
Ag	107	115	He	0.0154	ug/l	8.2	581.13	
Ag	109	115	He	0.0171	ug/l	8.6	618.91	
Cd	111	115	He	0.4914	ug/l	2.3	2027.12	
Cd	114	115	He	0.5184	ug/l	0.3	5608.95	
[Pb]	206	175	He	1.7800	ug/l	1.7	43519.06	
[Pb]	207	175	He	1.6904	ug/l	2.2	35094.31	
Pb	208	175	He	1.7156	ug/l	1.5	168044.15	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	707126.26	1.5	631862.72	111.91	
Sc	45	No Gas	17425482.64	1.6	17871068.18	97.51	
Ge	72	H2	3238080.98	2.1	3428557.43	94.44	
Sc	45	He	378252.77	0.7	410812.74	92.07	
Ge	72	He	342353.61	0.2	381599.59	89.72	
In	115	He	3576587.48	2.0	3827432.7	93.45	
Lu	175	He	8917195.76	1.4	8955047.42	99.58	
Th	232	He	15179603.94	1.5	14651428.53	103.6	

Sample Report

Sample Name K2507459-012
File Name 036SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:26:40
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	13404.9627	ug/l	6.4	730551597.64	
Se	77	72	H2	0.2890	ug/l	50.8	2373.84	
Se	78	72	H2	0.2714	ug/l	4.4	596.34	
Cr	52	72	He	116.6264	ug/l	2.5	1433999.84	
Cr	53	72	He	112.0535	ug/l	0.3	169813.26	
Ni	60	72	He	49.6128	ug/l	0.2	355300.33	
Ni	62	72	He	50.6002	ug/l	1.0	56533.62	
Cu	63	72	He	29.9715	ug/l	0.5	622092.84	
Cu	65	72	He	30.0858	ug/l	1.2	309933.28	
Zn	66	72	He	68.5849	ug/l	0.3	171492.22	
As	75	72	He	11.6296	ug/l	0.8	17585.05	
Mo	95	115	He	0.5029	ug/l	1.9	4647.34	
Mo	98	115	He	0.5197	ug/l	2.8	8372.14	
Ag	107	115	He	0.0127	ug/l	5.9	481.12	
Ag	109	115	He	0.0145	ug/l	9.8	521.12	
Cd	111	115	He	0.3507	ug/l	0.8	1425.39	
Cd	114	115	He	0.3828	ug/l	2.1	4082.17	
[Pb]	206	175	He	1.2420	ug/l	1.1	30404.37	
[Pb]	207	175	He	1.2310	ug/l	4.4	25569.05	
Pb	208	175	He	1.2254	ug/l	2.2	120133.99	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	702691.61	0.4	631862.72	111.21	
Sc	45	No Gas	17758630.96	1.2	17871068.18	99.37	
Ge	72	H2	3189205.36	0.9	3428557.43	93.02	
Sc	45	He	380790.18	0.8	410812.74	92.69	
Ge	72	He	339307.01	0.2	381599.59	88.92	
In	115	He	3515193.12	1.3	3827432.7	91.84	
Lu	175	He	8848854.37	1.1	8955047.42	98.81	
Th	232	He	15095078.53	2.0	14651428.53	103.03	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 037_CCV.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:29:14
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	232.6089	ug/l	6.3	12628882.00	93.04	
Se	77	72	H2	25.1913	ug/l	4.1	18313.84	100.77	
Se	78	72	H2	25.1985	ug/l	2.5	50972.52	100.79	
Cr	52	72	He	25.0490	ug/l	1.7	323177.42	100.2	
Cr	53	72	He	25.2504	ug/l	1.5	40288.95	101	
Ni	60	72	He	25.0959	ug/l	0.9	188221.38	100.38	
Ni	62	72	He	25.0968	ug/l	0.3	29371.75	100.39	
Cu	63	72	He	25.2195	ug/l	1.2	548235.24	100.88	
Cu	65	72	He	25.3655	ug/l	0.8	273683.17	101.46	
Zn	66	72	He	25.5943	ug/l	2.6	67370.57	102.38	
As	75	72	He	24.7346	ug/l	1.0	39124.26	98.94	
Mo	95	115	He	12.1936	ug/l	0.5	113853.22	97.55	
Mo	98	115	He	12.2997	ug/l	1.8	199147.91	98.4	
Ag	107	115	He	12.5317	ug/l	1.4	440120.75	100.25	
Ag	109	115	He	12.5608	ug/l	1.9	436965.67	100.49	
Cd	111	115	He	24.7541	ug/l	0.5	104331.97	99.02	
Cd	114	115	He	24.6735	ug/l	1.1	271945.58	98.69	
[Pb]	206	175	He	24.5278	ug/l	1.1	597912.61	98.11	
[Pb]	207	175	He	24.7203	ug/l	1.6	510740.71	98.88	
Pb	208	175	He	24.5801	ug/l	0.9	2397697.92	98.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	699577.07	0.6	631862.72	110.72	
Sc	45	No Gas	17239312.09	2.0	17871068.18	96.46	
Ge	72	H2	3217810.43	2.9	3428557.43	93.85	
Sc	45	He	382323.76	0.4	410812.74	93.07	
Ge	72	He	355321.38	1.4	381599.59	93.11	
In	115	He	3674673.68	1.0	3827432.7	96.01	
Lu	175	He	9066547.70	0.9	8955047.42	101.25	
Th	232	He	15327833.94	1.5	14651428.53	104.62	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 038_CCB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:31:49
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.8294	ug/l	0.6	52676.01	
Se	77	72	H2	-0.1584	ug/l	N/A	2173.81	
Se	78	72	H2	0.0506	ug/l	17.2	160.00	
Cr	52	72	He	0.0083	ug/l	91.7	981.15	
Cr	53	72	He	0.0222	ug/l	215.0	317.78	
Ni	60	72	He	0.0029	ug/l	56.8	81.11	
Ni	62	72	He	-0.0006	ug/l	N/A	16.67	
Cu	63	72	He	0.0075	ug/l	17.3	961.14	
Cu	65	72	He	0.0048	ug/l	23.5	432.23	
Zn	66	72	He	0.0305	ug/l	30.8	660.02	
As	75	72	He	0.0223	ug/l	33.4	69.00	
Mo	95	115	He	0.0362	ug/l	50.0	495.57	
Mo	98	115	He	0.0278	ug/l	10.4	787.80	
Ag	107	115	He	0.0004	ug/l	85.8	72.22	
Ag	109	115	He	0.0001	ug/l	439.1	42.22	
Cd	111	115	He	0.0030	ug/l	44.6	24.17	
Cd	114	115	He	0.0038	ug/l	17.1	89.67	
[Pb]	206	175	He	-0.0043	ug/l	N/A	818.92	
[Pb]	207	175	He	-0.0023	ug/l	N/A	761.14	
Pb	208	175	He	-0.0034	ug/l	N/A	3424.63	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	647833.98	1.8	631862.72	102.53	
Sc	45	No Gas	16792773.77	1.7	17871068.18	93.97	
Ge	72	H2	3317318.48	0.7	3428557.43	96.76	
Sc	45	He	379065.40	3.2	410812.74	92.27	
Ge	72	He	351751.75	1.9	381599.59	92.18	
In	115	He	3612399.70	2.9	3827432.7	94.38	
Lu	175	He	9057762.14	2.6	8955047.42	101.15	
Th	232	He	15022666.44	2.6	14651428.53	102.53	

Sample Report

Sample Name K2507459-013
File Name 039SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:34:25
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	10508.6216	ug/l	6.0	587314589.99	
Se	77	72	H2	1.1306	ug/l	29.0	2336.83	
Se	78	72	H2	0.9307	ug/l	28.6	1487.73	
Cr	52	72	He	57.8914	ug/l	9.2	701872.33	
Cr	53	72	He	57.6958	ug/l	8.9	86310.06	
Ni	60	72	He	41.2982	ug/l	9.2	291448.02	
Ni	62	72	He	41.2671	ug/l	8.9	45445.44	
Cu	63	72	He	34.8626	ug/l	9.6	712768.57	
Cu	65	72	He	35.1050	ug/l	9.1	356321.91	
Zn	66	72	He	85.9630	ug/l	8.8	211721.62	
As	75	72	He	20.9263	ug/l	8.6	31166.69	
Mo	95	115	He	1.7355	ug/l	13.0	14961.21	
Mo	98	115	He	1.7721	ug/l	14.8	26494.39	
Ag	107	115	He	0.0418	ug/l	17.1	1393.40	
Ag	109	115	He	0.0399	ug/l	10.9	1311.18	
Cd	111	115	He	0.6619	ug/l	14.6	2560.20	
Cd	114	115	He	0.6967	ug/l	13.6	7067.34	
[Pb]	206	175	He	2.5485	ug/l	14.3	57477.75	
[Pb]	207	175	He	2.5099	ug/l	15.0	47962.12	
Pb	208	175	He	2.4967	ug/l	14.1	225375.79	

3x
8/1/25

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	722859.24	7.6	631862.72	114.4	
Sc	45	No Gas	19803977.55	9.5	17871068.18	110.82	
Ge	72	H2	2587355.45	24.4	3428557.43	75.46	
Sc	45	He	362571.41	11.7	410812.74	88.26	
Ge	72	He	336175.12	8.8	381599.59	88.1	
In	115	He	3399220.82	12.6	3827432.7	88.81	
Lu	175	He	8372872.72	12.6	8955047.42	93.5	
Th	232	He	13913820.63	13.2	14651428.53	94.97	

Sample Report

Sample Name K2507459-014
File Name 040SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:36:59
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8873.9490	ug/l	4.1	480675127.56	
Se	77	72	H2	2.3254	ug/l	12.8	3760.75	
Se	78	72	H2	2.1366	ug/l	3.6	4447.92	
Cr	52	72	He	8.6198	ug/l	1.0	109691.48	
Cr	53	72	He	8.7449	ug/l	1.9	13874.50	
Ni	60	72	He	37.5114	ug/l	0.4	276001.30	
Ni	62	72	He	37.8080	ug/l	1.5	43402.40	
Cu	63	72	He	24.6244	ug/l	1.3	525238.57	
Cu	65	72	He	24.5659	ug/l	1.1	260066.40	
Zn	66	72	He	256.4237	ug/l	0.5	657131.22	
As	75	72	He	27.1192	ug/l	1.0	42084.27	
Mo	95	115	He	7.7535	ug/l	0.9	71153.36	
Mo	98	115	He	7.6806	ug/l	1.7	122268.59	
Ag	107	115	He	0.1300	ug/l	2.8	4538.44	
Ag	109	115	He	0.1300	ug/l	4.2	4480.63	
Cd	111	115	He	3.0165	ug/l	0.3	12496.52	
Cd	114	115	He	2.9512	ug/l	0.8	31986.20	
[Pb]	206	175	He	3.2238	ug/l	2.4	78883.90	
[Pb]	207	175	He	3.1064	ug/l	0.6	64484.13	
Pb	208	175	He	3.1163	ug/l	1.0	305325.15	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	698469.64	0.7	631862.72	110.54	
Sc	45	No Gas	17776457.07	0.5	17871068.18	99.47	
Ge	72	H2	3274942.65	2.1	3428557.43	95.52	
Sc	45	He	387856.97	0.8	410812.74	94.41	
Ge	72	He	348590.23	0.1	381599.59	91.35	
In	115	He	3608668.31	0.9	3827432.7	94.28	
Lu	175	He	9009329.64	0.9	8955047.42	100.61	
Th	232	He	15059902.69	1.6	14651428.53	102.79	

Sample Report

Sample Name K2507459-015
File Name 041SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:39:34
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	12547.2969	ug/l	6.2	685743368.30	
Se	77	72	H2	0.6663	ug/l	15.5	2672.22	
Se	78	72	H2	0.4164	ug/l	3.8	907.69	
Cr	52	72	He	28.0576	ug/l	1.0	357113.95	
Cr	53	72	He	27.9699	ug/l	1.4	44007.91	
Ni	60	72	He	23.9225	ug/l	1.1	177042.65	
Ni	62	72	He	24.1555	ug/l	2.3	27893.74	
Cu	63	72	He	45.1747	ug/l	1.7	968394.30	
Cu	65	72	He	45.5911	ug/l	1.4	485071.84	
Zn	66	72	He	80.9678	ug/l	1.0	209075.50	
As	75	72	He	20.0724	ug/l	0.7	31335.33	
Mo	95	115	He	1.1450	ug/l	3.1	10723.48	
Mo	98	115	He	1.1246	ug/l	3.0	18322.30	
Ag	107	115	He	0.0705	ug/l	5.5	2506.88	
Ag	109	115	He	0.0639	ug/l	2.7	2236.84	
Cd	111	115	He	0.1565	ug/l	1.8	664.51	
Cd	114	115	He	0.1949	ug/l	0.7	2173.31	
[Pb]	206	175	He	4.7272	ug/l	0.1	114729.71	
[Pb]	207	175	He	4.6334	ug/l	0.8	95350.29	
Pb	208	175	He	4.6499	ug/l	0.4	451703.92	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	704600.82	0.8	631862.72	111.51	
Sc	45	No Gas	18252064.83	1.5	17871068.18	102.13	
Ge	72	H2	3263699.73	3.5	3428557.43	95.19	
Sc	45	He	387452.98	1.7	410812.74	94.31	
Ge	72	He	350583.09	0.2	381599.59	91.87	
In	115	He	3633707.91	0.9	3827432.7	94.94	
Lu	175	He	8968462.70	0.7	8955047.42	100.15	
Th	232	He	15340003.94	0.9	14651428.53	104.7	

Sample Report

Sample Name K2507459-016
File Name 042SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:42:08
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	13274.9216	ug/l	5.2	735153250.79	
Se	77	72	H2	1.2712	ug/l	4.3	3080.95	
Se	78	72	H2	1.0791	ug/l	2.5	2277.16	
Cr	52	72	He	30.1126	ug/l	0.6	377020.41	
Cr	53	72	He	30.1516	ug/l	0.2	46653.67	
Ni	60	72	He	27.4922	ug/l	0.3	200169.88	
Ni	62	72	He	27.8679	ug/l	0.8	31659.19	
Cu	63	72	He	50.6936	ug/l	0.8	1069064.89	
Cu	65	72	He	50.9172	ug/l	1.4	532946.20	
Zn	66	72	He	90.1708	ug/l	1.0	229014.45	
As	75	72	He	19.9400	ug/l	0.7	30626.04	
Mo	95	115	He	1.6265	ug/l	2.4	14953.41	
Mo	98	115	He	1.6614	ug/l	2.4	26531.11	
Ag	107	115	He	0.0921	ug/l	6.2	3212.56	
Ag	109	115	He	0.0928	ug/l	2.6	3187.00	
Cd	111	115	He	0.1837	ug/l	2.3	767.19	
Cd	114	115	He	0.2156	ug/l	0.4	2365.84	
[Pb]	206	175	He	4.5889	ug/l	0.4	110721.72	
[Pb]	207	175	He	4.4816	ug/l	1.8	91679.52	
Pb	208	175	He	4.5019	ug/l	0.7	434756.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	714057.32	0.3	631862.72	113.01	
Sc	45	No Gas	17942753.18	0.7	17871068.18	100.4	
Ge	72	H2	3279568.62	0.9	3428557.43	95.65	
Sc	45	He	385564.46	0.5	410812.74	93.85	
Ge	72	He	344924.17	0.3	381599.59	90.39	
In	115	He	3584020.49	1.4	3827432.7	93.64	
Lu	175	He	8913751.59	1.1	8955047.42	99.54	
Th	232	He	15053361.03	0.4	14651428.53	102.74	

Sample Report

Sample Name K2507459-017
File Name 043SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:44:43
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	13089.9110	ug/l	3.3	727877677.74	
Se	77	72	H2	0.8966	ug/l	16.8	2775.57	
Se	78	72	H2	0.6915	ug/l	2.9	1447.06	
Cr	52	72	He	28.8741	ug/l	1.1	357747.41	
Cr	53	72	He	28.8762	ug/l	3.1	44217.33	
Ni	60	72	He	26.2183	ug/l	2.2	188876.97	
Ni	62	72	He	26.4435	ug/l	1.6	29724.63	
Cu	63	72	He	52.7535	ug/l	1.1	1100770.13	
Cu	65	72	He	53.0559	ug/l	1.0	549480.14	
Zn	66	72	He	90.9217	ug/l	0.7	228491.35	
As	75	72	He	17.9721	ug/l	2.1	27315.10	
Mo	95	115	He	1.6054	ug/l	0.8	14632.02	
Mo	98	115	He	1.6202	ug/l	1.3	25656.46	
Ag	107	115	He	0.0616	ug/l	5.3	2145.71	
Ag	109	115	He	0.0628	ug/l	7.8	2151.27	
Cd	111	115	He	0.1498	ug/l	0.5	622.01	
Cd	114	115	He	0.1963	ug/l	0.9	2138.97	
[Pb]	206	175	He	4.9052	ug/l	0.3	117326.38	
[Pb]	207	175	He	4.8431	ug/l	0.3	98219.27	
Pb	208	175	He	4.8144	ug/l	1.1	460918.85	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	717057.40	1.1	631862.72	113.48	
Sc	45	No Gas	17811688.74	0.6	17871068.18	99.67	
Ge	72	H2	3208753.69	1.3	3428557.43	93.59	
Sc	45	He	378235.44	0.1	410812.74	92.07	
Ge	72	He	341304.83	0.7	381599.59	89.44	
In	115	He	3551977.96	0.4	3827432.7	92.8	
Lu	175	He	8841221.04	0.4	8955047.42	98.73	
Th	232	He	15029605.61	1.0	14651428.53	102.58	

Sample Report

Sample Name K2507459-018
File Name 044SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:47:18
Sample Type Sample
Comment < 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	13912.6470	ug/l	4.8	774185373.68	
Se	77	72	H2	0.4728	ug/l	8.3	2493.19	
Se	78	72	H2	0.2659	ug/l	1.3	586.01	
Cr	52	72	He	27.9966	ug/l	0.6	347744.50	
Cr	53	72	He	28.3052	ug/l	1.0	43454.29	
Ni	60	72	He	31.8288	ug/l	1.0	229833.79	
Ni	62	72	He	31.9036	ug/l	1.7	35942.96	
Cu	63	72	He	51.9527	ug/l	1.6	1086572.53	
Cu	65	72	He	52.2055	ug/l	1.1	541947.86	
Zn	66	72	He	90.0638	ug/l	1.3	226870.94	
As	75	72	He	70.4078	ug/l	0.8	107172.91	
Mo	95	115	He	0.8473	ug/l	2.7	7718.49	
Mo	98	115	He	0.8502	ug/l	3.5	13478.82	
Ag	107	115	He	0.1236	ug/l	4.2	4206.11	
Ag	109	115	He	0.1148	ug/l	5.5	3857.14	
Cd	111	115	He	0.1235	ug/l	3.3	509.18	
Cd	114	115	He	0.1642	ug/l	2.1	1777.43	
[Pb]	206	175	He	5.0215	ug/l	0.3	119189.51	
[Pb]	207	175	He	4.9767	ug/l	0.7	100152.68	
Pb	208	175	He	4.9468	ug/l	0.6	469959.03	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	717715.99	0.7	631862.72	113.59	
Sc	45	No Gas	17516747.08	0.4	17871068.18	98.02	
Ge	72	H2	3193372.65	1.3	3428557.43	93.14	
Sc	45	He	375692.58	0.9	410812.74	91.45	
Ge	72	He	342120.59	1.2	381599.59	89.65	
In	115	He	3514096.00	1.5	3827432.7	91.81	
Lu	175	He	8775217.71	0.4	8955047.42	97.99	
Th	232	He	14878285.61	0.5	14651428.53	101.55	

Sample Report

Sample Name K2507459-013
File Name 045SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:49:52
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	10142.8768	ug/l	4.0	550073631.48	
Se	77	72	H2	0.7352	ug/l	7.1	2647.21	
Se	78	72	H2	0.6715	ug/l	0.6	1393.06	
Cr	52	72	He	53.4080	ug/l	0.9	667790.08	
Cr	53	72	He	53.5186	ug/l	1.2	82562.96	
Ni	60	72	He	38.2498	ug/l	1.6	278383.29	
Ni	62	72	He	38.7263	ug/l	2.0	43973.71	
Cu	63	72	He	32.0871	ug/l	0.8	676736.97	
Cu	65	72	He	32.1684	ug/l	1.4	336717.66	
Zn	66	72	He	78.7613	ug/l	1.2	200037.32	
As	75	72	He	19.0193	ug/l	0.9	29203.88	
Mo	95	115	He	1.5615	ug/l	2.3	14339.54	
Mo	98	115	He	1.5517	ug/l	1.8	24762.81	
Ag	107	115	He	0.0385	ug/l	6.2	1372.29	
Ag	109	115	He	0.0377	ug/l	5.0	1317.84	
Cd	111	115	He	0.5870	ug/l	4.3	2420.84	
Cd	114	115	He	0.6254	ug/l	1.2	6758.88	
[Pb]	206	175	He	2.2825	ug/l	0.9	55547.25	
[Pb]	207	175	He	2.2671	ug/l	2.7	46785.32	
Pb	208	175	He	2.2430	ug/l	2.0	218516.03	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	699233.72	0.8	631862.72	110.66	
Sc	45	No Gas	17483277.64	1.9	17871068.18	97.83	
Ge	72	H2	3178460.01	2.8	3428557.43	92.71	
Sc	45	He	378729.40	0.8	410812.74	92.19	
Ge	72	He	344811.17	0.7	381599.59	90.36	
In	115	He	3577935.03	1.0	3827432.7	93.48	
Lu	175	He	8917116.59	1.5	8955047.42	99.58	
Th	232	He	15216067.27	1.7	14651428.53	103.85	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 046_CCV.d
Data Path Name D:\Agilent\ICPMH1\1\DATA\080125A.b
Acq Time 2025-08-01 09:52:33
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	231.2265	ug/l	4.9	12492166.45	92.49	
Se	77	72	H2	25.6125	ug/l	2.3	18410.26	102.45	
Se	78	72	H2	25.2146	ug/l	1.3	50527.47	100.86	
Cr	52	72	He	25.1300	ug/l	1.4	323693.55	100.52	
Cr	53	72	He	25.0942	ug/l	1.7	39974.89	100.38	
Ni	60	72	He	24.8331	ug/l	1.5	185937.59	99.33	
Ni	62	72	He	25.1324	ug/l	0.4	29362.88	100.53	
Cu	63	72	He	25.1250	ug/l	0.8	545274.23	100.5	
Cu	65	72	He	25.2760	ug/l	1.4	272244.11	101.1	
Zn	66	72	He	25.7032	ug/l	0.4	67554.36	102.81	
As	75	72	He	24.8551	ug/l	0.6	39249.21	99.42	
Mo	95	115	He	12.2198	ug/l	2.3	114199.94	97.76	
Mo	98	115	He	12.2394	ug/l	1.6	198385.65	97.92	
Ag	107	115	He	12.3842	ug/l	1.1	435421.91	99.07	
Ag	109	115	He	12.3664	ug/l	1.1	430696.35	98.93	
Cd	111	115	He	24.5925	ug/l	1.7	103751.39	98.37	
Cd	114	115	He	24.5170	ug/l	1.7	270489.32	98.07	
[Pb]	206	175	He	24.3246	ug/l	0.5	588098.68	97.3	
[Pb]	207	175	He	24.5631	ug/l	0.8	503349.32	98.25	
Pb	208	175	He	24.3577	ug/l	0.8	2356534.79	97.43	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	696278.63	1.2	631862.72	110.19	
Sc	45	No Gas	17485275.42	1.6	17871068.18	97.84	
Ge	72	H2	3186658.07	1.4	3428557.43	92.94	
Sc	45	He	379003.98	0.9	410812.74	92.26	
Ge	72	He	354710.41	1.0	381599.59	92.95	
In	115	He	3678862.42	1.8	3827432.7	96.12	
Lu	175	He	8992108.81	1.1	8955047.42	100.41	
Th	232	He	15459342.69	0.6	14651428.53	105.51	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 047_CCB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 09:55:08
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.6773	ug/l	9.0	45356.00	
Se	77	72	H2	-0.0859	ug/l	N/A	2187.48	
Se	78	72	H2	0.0486	ug/l	15.6	153.33	
Cr	52	72	He	0.0074	ug/l	34.6	963.37	
Cr	53	72	He	0.0172	ug/l	174.2	308.89	
Ni	60	72	He	0.0009	ug/l	57.4	65.55	
Ni	62	72	He	-0.0083	ug/l	N/A	7.78	
Cu	63	72	He	0.0004	ug/l	100.6	802.25	
Cu	65	72	He	0.0044	ug/l	129.7	425.56	
Zn	66	72	He	0.0216	ug/l	143.1	633.35	
As	75	72	He	0.0228	ug/l	55.0	69.33	
Mo	95	115	He	0.0235	ug/l	9.6	380.01	
Mo	98	115	He	0.0224	ug/l	26.0	696.69	
Ag	107	115	He	0.0001	ug/l	831.3	61.11	
Ag	109	115	He	-0.0002	ug/l	N/A	34.45	
Cd	111	115	He	0.0019	ug/l	113.0	19.83	
Cd	114	115	He	0.0029	ug/l	19.1	79.67	
[Pb]	206	175	He	-0.0057	ug/l	N/A	773.36	
[Pb]	207	175	He	-0.0062	ug/l	N/A	671.13	
Pb	208	175	He	-0.0057	ug/l	N/A	3152.38	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	652333.79	0.6	631862.72	103.24	
Sc	45	No Gas	16953110.99	1.3	17871068.18	94.86	
Ge	72	H2	3266090.77	0.6	3428557.43	95.26	
Sc	45	He	377179.23	0.7	410812.74	91.81	
Ge	72	He	349442.58	0.5	381599.59	91.57	
In	115	He	3588217.84	1.3	3827432.7	93.75	
Lu	175	He	8922130.48	2.3	8955047.42	99.63	
Th	232	He	15002081.86	0.6	14651428.53	102.39	

Prep Blank (PB) Report

Sample Name QK2513499-03
File Name 048_PB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 09:57:43
Sample Type PB
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	1.4392	ug/l	4.2	84494.03	
Se	77	72	H2	-0.2023	ug/l	N/A	2158.14	
Se	78	72	H2	0.0002	ug/l	4720.3	55.33	
Cr	52	72	He	0.0445	ug/l	6.8	1405.62	
Cr	53	72	He	0.0446	ug/l	25.6	344.45	
Ni	60	72	He	0.0285	ug/l	18.8	263.34	
Ni	62	72	He	0.0311	ug/l	35.8	52.22	
Cu	63	72	He	0.0187	ug/l	21.1	1168.94	
Cu	65	72	He	0.0209	ug/l	26.5	587.79	
Zn	66	72	He	0.0124	ug/l	243.3	598.91	
As	75	72	He	0.0225	ug/l	21.2	67.67	
Mo	95	115	He	0.0116	ug/l	18.2	268.89	
Mo	98	115	He	0.0041	ug/l	127.2	405.56	
Ag	107	115	He	-0.0003	ug/l	N/A	47.78	
Ag	109	115	He	-0.0002	ug/l	N/A	31.11	
Cd	111	115	He	0.0015	ug/l	62.2	18.17	
Cd	114	115	He	0.0536	ug/l	11.4	620.84	Flag
[Pb]	206	175	He	0.0019	ug/l	149.2	934.48	
[Pb]	207	175	He	0.0023	ug/l	92.8	823.36	
Pb	208	175	He	0.0034	ug/l	66.6	3926.90	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	657212.77	1.2	631862.72	104.01	
Sc	45	No Gas	17349752.09	1.1	17871068.18	97.08	
Ge	72	H2	3337920.77	1.3	3428557.43	97.36	
Sc	45	He	367026.35	4.7	410812.74	89.34	
Ge	72	He	342652.29	3.0	381599.59	89.79	
In	115	He	3565158.55	2.3	3827432.7	93.15	
Lu	175	He	8711472.43	2.3	8955047.42	97.28	
Th	232	He	14558817.70	3.6	14651428.53	99.37	

Laboratory Control Sample (LCS) Report

Sample Name QK2513499-04
File Name 049_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:00:19
Sample Type LCS
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	QC Flag
Al	27	6	No Gas	476.6857	ug/l	1.3	22195049.67	400	119.17	
Se	77	72	H2	105.3945	ug/l	1.3	70449.69	100	105.39	
Se	78	72	H2	104.8630	ug/l	1.7	214541.16	100	104.86	
Cr	52	72	He	41.7412	ug/l	0.5	537329.28	40	104.35	
Cr	53	72	He	41.8270	ug/l	1.4	66473.33	40	104.57	
Ni	60	72	He	102.2490	ug/l	0.6	765747.49	100	102.25	
Ni	62	72	He	101.8043	ug/l	1.5	118935.20	100	101.8	
Cu	63	72	He	51.0904	ug/l	1.0	1108455.61	50	102.18	
Cu	65	72	He	51.4357	ug/l	0.9	553878.33	50	102.87	
Zn	66	72	He	101.3391	ug/l	0.8	264721.89	100	101.34	
As	75	72	He	103.0466	ug/l	0.7	162685.29	100	103.05	
Mo	95	115	He	100.2468	ug/l	0.9	951315.83	100	100.25	
Mo	98	115	He	104.7195	ug/l	1.4	1722988.61	100	104.72	
Ag	107	115	He	10.1007	ug/l	0.8	361056.00	10	101.01	
Ag	109	115	He	10.1257	ug/l	0.3	358542.39	10	101.26	
Cd	111	115	He	9.9081	ug/l	0.8	42508.41	10	99.08	
Cd	114	115	He	9.5690	ug/l	0.9	107368.21	10	95.69	
[Pb]	206	175	He	105.8519	ug/l	2.0	2564863.09	100	105.85	
[Pb]	207	175	He	104.3460	ug/l	2.1	2143110.12	100	104.35	
Pb	208	175	He	104.1970	ug/l	2.3	10103237.86	100	104.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	600109.37	0.7	631862.72	94.97	
Sc	45	No Gas	14662737.20	3.2	17871068.18	82.05	
Ge	72	H2	3256155.64	1.5	3428557.43	94.97	
Sc	45	He	386011.60	1.5	410812.74	93.96	
Ge	72	He	354855.85	0.3	381599.59	92.99	
In	115	He	3739692.85	0.6	3827432.7	97.71	
Lu	175	He	9023625.75	0.8	8955047.42	100.77	
Th	232	He	15396724.35	1.4	14651428.53	105.09	

Reference Sample Report

Sample Name K2507459-019
File Name 050_ARF.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:02:50
Sample Type AllRef
Comment 10X
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	14656.2788	ug/l	4.2	783196591.10	
Se	77	72	H2	0.6436	ug/l	19.6	2709.22	
Se	78	72	H2	0.4793	ug/l	7.3	1055.70	
Cr	52	72	He	26.4562	ug/l	1.1	338165.20	
Cr	53	72	He	26.3025	ug/l	1.3	41571.92	
Ni	60	72	He	26.1357	ug/l	0.2	194212.72	
Ni	62	72	He	26.3996	ug/l	1.0	30609.47	
Cu	63	72	He	47.9081	ug/l	0.7	1031179.54	
Cu	65	72	He	48.3656	ug/l	1.1	516682.79	
Zn	66	72	He	86.8877	ug/l	0.5	225241.30	
As	75	72	He	40.2924	ug/l	0.7	63125.18	
Mo	95	115	He	0.8910	ug/l	0.4	8342.12	
Mo	98	115	He	0.8916	ug/l	1.8	14529.69	
Ag	107	115	He	0.1208	ug/l	2.1	4233.90	
Ag	109	115	He	0.1139	ug/l	0.1	3940.50	
Cd	111	115	He	0.1093	ug/l	3.5	465.18	
Cd	114	115	He	0.1519	ug/l	5.2	1695.92	
[Pb]	206	175	He	5.1117	ug/l	1.3	125050.56	
[Pb]	207	175	He	5.0090	ug/l	2.2	103896.36	
Pb	208	175	He	4.9989	ug/l	0.8	489470.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	689361.66	1.7	631862.72	109.1	
Sc	45	No Gas	17855424.29	1.5	17871068.18	99.91	
Ge	72	H2	3326375.35	1.6	3428557.43	97.02	
Sc	45	He	388427.06	1.3	410812.74	94.55	
Ge	72	He	352023.91	0.4	381599.59	92.25	
In	115	He	3616325.12	0.9	3827432.7	94.48	
Lu	175	He	9045239.08	0.6	8955047.42	101.01	
Th	232	He	15207816.85	0.8	14651428.53	103.8	

Duplicate Sample Report

Sample Name KQ2513499-01
File Name 051_Dup.d
Data Path Name D:\Agilent\ICPMH1\1\DATA\080125A.b
Acq Time 2025-08-01 10:05:24
Sample Type Dup
Total Dilution 1.0000
Comment 10X
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD Ref FileName Pass
QC Ref File Name 050_
Default Text AERLS
 NoUser

QC Analyte Table

Name	Mass	Tune Mode	CPS	Conc.	Units	Conc. RSD	RPD	Flag
Al	27	No Gas	769757284.97	13882.6774	ug/l	4.2	5.42	
Se	77	H2	2616.21	0.6418	ug/l	38.8		< 5X MRL
Se	78	H2	679.02	0.3099	ug/l	2.4		< 5X MRL
Cr	52	He	341513.59	27.0082	ug/l	0.2	2.07	
Cr	53	He	42213.47	27.0028	ug/l	1.4	2.63	
Ni	60	He	210227.47	28.5987	ug/l	0.8	9	
Ni	62	He	33055.13	28.8194	ug/l	0.5	8.76	
Cu	63	He	1133824.68	53.2533	ug/l	1.3	10.57	
Cu	65	He	563730.50	53.3470	ug/l	1.7	9.8	
Zn	66	He	246552.73	96.1647	ug/l	0.9	10.14	
As	75	He	68287.65	44.0617	ug/l	0.4	8.94	
Mo	95	He	8676.74	0.9359	ug/l	1.0	4.91	
Mo	98	He	15637.39	0.9700	ug/l	2.6	8.42	
Ag	107	He	3724.89	0.1071	ug/l	0.7		< 5X MRL
Ag	109	He	3697.11	0.1078	ug/l	1.4		< 5X MRL
Cd	111	He	524.68	0.1247	ug/l	6.1		< 5X MRL
Cd	114	He	1793.93	0.1624	ug/l	1.1		< 5X MRL
[Pb]	206	He	232335.98	9.6598	ug/l	1.0	61.58	Dup Fail
[Pb]	207	He	194842.36	9.5558	ug/l	1.7	62.44	Dup Fail
Pb	208	He	914884.33	9.5044	ug/l	0.8	62.13	Dup Fail

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	715033.51	1.0	631862.72	113.16	69.55	125.44	
Sc	45	No Gas	17644962.63	0.6	17871068.18	98.73	69.55	125.44	
Ge	72	H2	3214589.80	1.8	3428557.43	93.76	69.55	125.44	
Sc	45	He	384206.87	0.4	410812.74	93.52	69.55	125.44	
Ge	72	He	348254.85	0.7	381599.59	91.26	69.55	125.44	
In	115	He	3584482.35	0.7	3827432.7	93.65	69.55	125.44	
Lu	175	He	8924422.70	0.6	8955047.42	99.66	69.55	125.44	
Th	232	He	15255268.94	1.1	14651428.53	104.12	69.55	125.44	

Sample Report

Sample Name K2507459-019L
File Name 052SMPL.d
Data Path Name D:\Agilent\ICPMH1\1\DATA\080125A.b
Acq Time 2025-08-01 10:07:58
Sample Type Sample
Comment 50X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	2900.2840	ug/l	3.3	155231558.28	
Se	77	72	H2	0.0028	ug/l	4943.7	2251.15	
Se	78	72	H2	0.0600	ug/l	25.4	177.33	
Cr	52	72	He	5.3017	ug/l	1.9	68104.02	
Cr	53	72	He	5.3515	ug/l	0.7	8639.99	
Ni	60	72	He	5.6605	ug/l	0.8	41893.04	
Ni	62	72	He	5.8189	ug/l	4.6	6723.58	
Cu	63	72	He	9.9569	ug/l	0.6	213825.36	
Cu	65	72	He	10.0674	ug/l	0.6	107290.08	
Zn	66	72	He	17.8923	ug/l	0.9	46606.53	
As	75	72	He	8.1443	ug/l	0.2	12720.74	
Mo	95	115	He	0.1708	ug/l	11.1	1741.22	
Mo	98	115	He	0.1637	ug/l	5.8	2965.84	
Ag	107	115	He	0.0221	ug/l	12.5	824.47	
Ag	109	115	He	0.0255	ug/l	6.1	917.81	
Cd	111	115	He	0.0218	ug/l	4.0	103.00	
Cd	114	115	He	0.0323	ug/l	5.8	401.51	
[Pb]	206	175	He	1.3881	ug/l	1.3	34082.05	
[Pb]	207	175	He	1.3731	ug/l	2.7	28609.94	
Pb	208	175	He	1.3696	ug/l	0.9	134673.49	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	690288.58	1.3	631862.72	109.25	
Sc	45	No Gas	17216032.09	1.5	17871068.18	96.33	
Ge	72	H2	3276572.51	1.9	3428557.43	95.57	
Sc	45	He	380064.22	1.2	410812.74	92.52	
Ge	72	He	350201.46	1.2	381599.59	91.77	
In	115	He	3633363.16	1.3	3827432.7	94.93	
Lu	175	He	8902256.04	0.6	8955047.42	99.41	
Th	232	He	15155216.44	0.2	14651428.53	103.44	

Post Digestion Spike Sample (PDS) Report

Sample Name K2507459-019A
File Name 053_PDS.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:10:33
Sample Type PDS
Comment 10X
ISTD Ref FileName 003CALB.d
QC Ref File Name 050_
 ARF.
Default Text ALKLS
 NoUser

QC Analyte Table

Name	Mass	Tune	Conc.	Units	Conc. RSD	CPS	Spk Amt	% Rec	Flag
Al	27	No Gas	14469.3049	ug/l	5.6	813565585.45	50	-373.95	Flag
Se	77	H2	55.0670	ug/l	8.1	36310.18	50	108.85	
Se	78	H2	54.6123	ug/l	6.8	107178.14	50	108.27	
Cr	52	He	81.9624	ug/l	0.9	1018554.33	50	111.01	
Cr	53	He	81.4287	ug/l	1.2	124762.33	50	110.25	
Ni	60	He	81.0429	ug/l	0.2	586445.36	50	109.81	
Ni	62	He	80.5911	ug/l	1.0	90969.74	50	108.38	
Cu	63	He	104.5402	ug/l	2.2	2190350.19	50	113.26	
Cu	65	He	103.7989	ug/l	0.7	1079556.34	50	110.87	
Zn	66	He	142.9023	ug/l	0.9	360436.93	50	112.03	
As	75	He	94.9559	ug/l	0.9	144841.73	50	109.33	
Mo	95	He	52.7839	ug/l	0.7	476954.81	50	103.79	
Mo	98	He	53.0762	ug/l	1.1	831558.29	50	104.37	
Ag	107	He	10.8606	ug/l	1.4	369573.51	10	107.4	
Ag	109	He	10.8935	ug/l	1.1	367210.90	10	107.8	
Cd	111	He	52.0006	ug/l	0.8	212329.67	50	103.78	
Cd	114	He	51.2478	ug/l	0.8	547210.02	50	102.19	
[Pb]	206	He	56.4251	ug/l	1.3	1350064.81	50	102.63	
[Pb]	207	He	57.1186	ug/l	1.8	1158263.74	50	104.22	
Pb	208	He	58.2969	ug/l	2.0	5580979.19	50	106.6	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	724979.85	0.4	631862.72	114.74	
Sc	45	No Gas	17881670.96	1.2	17871068.18	100.06	
Ge	72	H2	3131497.24	6.6	3428557.43	91.34	
Sc	45	He	377512.17	1.0	410812.74	91.89	
Ge	72	He	342867.44	1.2	381599.59	89.85	
In	115	He	3560422.83	1.6	3827432.7	93.02	
Lu	175	He	8908726.31	2.7	8955047.42	99.48	
Th	232	He	15382178.52	1.0	14651428.53	104.99	

Matrix Spike Sample (MS) Report

Sample Name KQ2513499-02
File Name 054_Spk.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:13:05
Sample Type Spike
Comment 10X
ISTD Ref FileName 003CALB.d
QC Ref File Name 050_
 ARF.
Default Text ALKLS
 NoUser

QC Analyte Table

Name	Mass	Tune	Conc.	Units	Conc. RSD	CPS	Spk Amt	% Rec	Flag
Al	27	No Gas	13610.2983	ug/l	6.2	777183773.57	400	-261.5	Flag
Se	77	H2	99.8772	ug/l	1.9	66608.60	100	99.23	
Se	78	H2	99.3158	ug/l	0.7	202400.30	100	98.84	
Cr	52	He	65.6961	ug/l	1.5	815749.10	40	98.1	
Cr	53	He	65.8097	ug/l	0.7	100789.56	40	98.77	
Ni	60	He	124.6690	ug/l	0.8	901158.47	100	98.53	
Ni	62	He	126.4499	ug/l	1.1	142588.21	100	100.05	
Cu	63	He	99.7237	ug/l	1.6	2087512.42	50	103.63	
Cu	65	He	99.6098	ug/l	1.1	1034962.50	50	102.49	
Zn	66	He	188.4825	ug/l	1.1	474741.40	100	101.59	
As	75	He	136.5827	ug/l	0.7	208123.64	100	96.29	
Mo	95	He	101.0464	ug/l	0.9	900135.56	100	100.16	
Mo	98	He	103.9554	ug/l	0.5	1605684.24	100	103.06	
Ag	107	He	10.1128	ug/l	1.0	339324.61	10	99.92	
Ag	109	He	10.1706	ug/l	1.2	338043.72	10	100.57	
Cd	111	He	10.0261	ug/l	1.3	40375.61	10	99.17	
Cd	114	He	9.7027	ug/l	0.6	102195.72	10	95.51	
[Pb]	206	He	108.7512	ug/l	0.6	2562316.91	100	103.64	
[Pb]	207	He	105.5609	ug/l	1.0	2108065.96	100	100.55	
Pb	208	He	106.8019	ug/l	0.7	10069617.52	100	101.8	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	736298.76	0.6	631862.72	116.53	
Sc	45	No Gas	18012263.17	1.9	17871068.18	100.79	
Ge	72	H2	3243146.12	1.6	3428557.43	94.59	
Sc	45	He	374054.64	1.0	410812.74	91.05	
Ge	72	He	342528.59	1.0	381599.59	89.76	
In	115	He	3510510.48	0.7	3827432.7	91.72	
Lu	175	He	8773636.60	0.7	8955047.42	97.97	
Th	232	He	15162823.11	1.5	14651428.53	103.49	

Sample Report

Sample Name K2507459-020
File Name 055SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:15:35
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	12646.5244	ug/l	3.5	646526000.98	
Se	77	72	H2	0.5037	ug/l	23.8	2556.53	
Se	78	72	H2	0.5077	ug/l	4.6	1090.04	
Cr	52	72	He	22.2638	ug/l	0.9	276813.63	
Cr	53	72	He	22.3739	ug/l	0.6	34423.03	
Ni	60	72	He	22.2767	ug/l	1.4	160949.02	
Ni	62	72	He	22.4260	ug/l	4.4	25279.75	
Cu	63	72	He	42.9418	ug/l	1.0	898720.83	
Cu	65	72	He	43.5931	ug/l	0.1	452837.00	
Zn	66	72	He	77.8441	ug/l	1.0	196262.04	
As	75	72	He	40.2518	ug/l	0.7	61311.37	
Mo	95	115	He	0.9582	ug/l	1.1	8694.54	
Mo	98	115	He	0.9749	ug/l	2.1	15386.03	
Ag	107	115	He	0.0877	ug/l	5.9	2998.07	
Ag	109	115	He	0.0875	ug/l	5.6	2945.84	
Cd	111	115	He	0.1011	ug/l	8.7	418.51	
Cd	114	115	He	0.1441	ug/l	1.8	1563.74	
[Pb]	206	175	He	4.1657	ug/l	0.5	100828.14	
[Pb]	207	175	He	4.0847	ug/l	0.6	83838.58	
Pb	208	175	He	4.0790	ug/l	0.4	395209.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	658997.70	1.7	631862.72	104.29	
Sc	45	No Gas	15149757.18	1.2	17871068.18	84.77	
Ge	72	H2	3248640.70	1.4	3428557.43	94.75	
Sc	45	He	378300.96	0.8	410812.74	92.09	
Ge	72	He	342267.23	1.0	381599.59	89.69	
In	115	He	3509809.99	1.1	3827432.7	91.7	
Lu	175	He	8934574.64	0.4	8955047.42	99.77	
Th	232	He	15269523.10	0.6	14651428.53	104.22	

Sample Report

Sample Name K2507459-021
File Name 056SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:18:10
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	10537.4161	ug/l	2.9	572962323.90	
Se	77	72	H2	3.2873	ug/l	2.9	4272.88	
Se	78	72	H2	3.1931	ug/l	2.6	6447.56	
Cr	52	72	He	11.0226	ug/l	1.4	138358.63	
Cr	53	72	He	11.0759	ug/l	2.8	17287.57	
Ni	60	72	He	47.9215	ug/l	1.4	348352.35	
Ni	62	72	He	48.3696	ug/l	1.5	54855.97	
Cu	63	72	He	36.9124	ug/l	1.2	777517.92	
Cu	65	72	He	36.8164	ug/l	1.0	384908.03	
Zn	66	72	He	350.6409	ug/l	0.2	887696.04	
As	75	72	He	40.7022	ug/l	0.8	62391.67	
Mo	95	115	He	12.3940	ug/l	0.5	113133.42	
Mo	98	115	He	12.3812	ug/l	1.4	196007.78	
Ag	107	115	He	0.1071	ug/l	0.9	3732.66	
Ag	109	115	He	0.1094	ug/l	6.2	3761.56	
Cd	111	115	He	3.4632	ug/l	0.4	14280.79	
Cd	114	115	He	3.3979	ug/l	0.3	36656.97	
[Pb]	206	175	He	4.9201	ug/l	1.5	119635.25	
[Pb]	207	175	He	4.8955	ug/l	2.0	100916.53	
Pb	208	175	He	4.8506	ug/l	2.2	472040.10	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	701210.39	0.5	631862.72	110.98	
Sc	45	No Gas	17307069.31	0.9	17871068.18	96.84	
Ge	72	H2	3188375.84	1.1	3428557.43	92.99	
Sc	45	He	383360.57	0.1	410812.74	93.32	
Ge	72	He	344445.61	1.1	381599.59	90.26	
In	115	He	3592462.64	0.3	3827432.7	93.86	
Lu	175	He	8989251.87	1.4	8955047.42	100.38	
Th	232	He	15342683.94	1.6	14651428.53	104.72	

Sample Report

Sample Name K2507459-022
File Name 057SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:20:45
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9881.7651	ug/l	3.7	537958165.29	
Se	77	72	H2	1.8360	ug/l	7.0	3418.01	
Se	78	72	H2	1.5926	ug/l	2.1	3304.99	
Cr	52	72	He	16.1595	ug/l	1.8	204357.02	
Cr	53	72	He	16.1758	ug/l	1.5	25361.91	
Ni	60	72	He	35.8900	ug/l	0.8	263417.28	
Ni	62	72	He	35.9125	ug/l	0.8	41124.63	
Cu	63	72	He	47.2304	ug/l	1.1	1004177.56	
Cu	65	72	He	47.5180	ug/l	0.7	501445.73	
Zn	66	72	He	149.9079	ug/l	1.0	383448.82	
As	75	72	He	19.3359	ug/l	1.3	29940.81	
Mo	95	115	He	2.1668	ug/l	3.8	19898.58	
Mo	98	115	He	2.1217	ug/l	1.3	33846.43	
Ag	107	115	He	0.1242	ug/l	6.3	4318.37	
Ag	109	115	He	0.1185	ug/l	3.2	4064.98	
Cd	111	115	He	0.7269	ug/l	0.6	3004.44	
Cd	114	115	He	0.7530	ug/l	0.3	8155.84	
[Pb]	206	175	He	8.2207	ug/l	1.6	198509.93	
[Pb]	207	175	He	7.9361	ug/l	0.8	162490.29	
Pb	208	175	He	8.0203	ug/l	0.2	775168.37	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	701850.11	1.3	631862.72	111.08	
Sc	45	No Gas	17511319.30	1.6	17871068.18	97.99	
Ge	72	H2	3249977.86	0.9	3428557.43	94.79	
Sc	45	He	389219.97	1.2	410812.74	94.74	
Ge	72	He	347738.27	0.8	381599.59	91.13	
In	115	He	3589823.19	0.9	3827432.7	93.79	
Lu	175	He	8953873.26	0.5	8955047.42	99.99	
Th	232	He	15417110.19	0.7	14651428.53	105.23	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 058_CCV.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:23:40
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	235.9717	ug/l	7.1	12702301.72	94.39	
Se	77	72	H2	24.8763	ug/l	1.7	17995.48	99.51	
Se	78	72	H2	25.1922	ug/l	1.7	50623.47	100.77	
Cr	52	72	He	25.1129	ug/l	1.6	320675.87	100.45	
Cr	53	72	He	25.2520	ug/l	1.0	39880.25	101.01	
Ni	60	72	He	25.0651	ug/l	0.7	186055.21	100.26	
Ni	62	72	He	25.3594	ug/l	1.3	29370.68	101.44	
Cu	63	72	He	25.3093	ug/l	0.7	544533.12	101.24	
Cu	65	72	He	25.4326	ug/l	1.0	271573.23	101.73	
Zn	66	72	He	25.4544	ug/l	0.8	66326.25	101.82	
As	75	72	He	24.7664	ug/l	1.0	38771.47	99.07	
Mo	95	115	He	12.4059	ug/l	1.0	114132.96	99.25	
Mo	98	115	He	12.3771	ug/l	0.8	197476.57	99.02	
Ag	107	115	He	12.4659	ug/l	1.4	431400.86	99.73	
Ag	109	115	He	12.4678	ug/l	0.5	427421.59	99.74	
Cd	111	115	He	24.7407	ug/l	1.0	102744.35	98.96	
Cd	114	115	He	24.7704	ug/l	0.5	269019.83	99.08	
[Pb]	206	175	He	24.4898	ug/l	0.6	583336.80	97.96	
[Pb]	207	175	He	24.7518	ug/l	0.9	499720.00	99.01	
Pb	208	175	He	24.5505	ug/l	0.6	2340099.56	98.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	693833.90	1.0	631862.72	109.81	
Sc	45	No Gas	17507180.97	0.5	17871068.18	97.96	
Ge	72	H2	3195558.76	1.2	3428557.43	93.2	
Sc	45	He	378772.33	0.7	410812.74	92.2	
Ge	72	He	351645.33	0.6	381599.59	92.15	
In	115	He	3620828.29	1.0	3827432.7	94.6	
Lu	175	He	8859175.76	0.7	8955047.42	98.93	
Th	232	He	15234064.78	2.5	14651428.53	103.98	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 059_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:26:15
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.7828	ug/l	23.8	50273.70	
Se	77	72	H2	-0.1187	ug/l	N/A	2152.81	
Se	78	72	H2	0.0665	ug/l	10.3	189.33	
Cr	52	72	He	0.0014	ug/l	303.7	890.03	
Cr	53	72	He	-0.0139	ug/l	N/A	261.12	
Ni	60	72	He	0.0047	ug/l	92.4	94.44	
Ni	62	72	He	-0.0016	ug/l	N/A	15.56	
Cu	63	72	He	0.0014	ug/l	218.9	826.69	
Cu	65	72	He	0.0045	ug/l	178.7	427.78	
Zn	66	72	He	0.0298	ug/l	52.4	656.68	
As	75	72	He	0.0380	ug/l	32.3	93.33	
Mo	95	115	He	0.0516	ug/l	22.4	636.68	
Mo	98	115	He	0.0468	ug/l	7.7	1084.49	
Ag	107	115	He	0.0002	ug/l	141.6	65.56	
Ag	109	115	He	0.0006	ug/l	45.0	60.00	
Cd	111	115	He	0.0032	ug/l	14.5	25.33	
Cd	114	115	He	0.0030	ug/l	6.3	81.00	
[Pb]	206	175	He	-0.0076	ug/l	N/A	733.36	
[Pb]	207	175	He	-0.0114	ug/l	N/A	566.68	
Pb	208	175	He	-0.0083	ug/l	N/A	2917.92	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	647451.10	0.7	631862.72	102.47	
Sc	45	No Gas	16855702.11	0.3	17871068.18	94.32	
Ge	72	H2	3248260.15	2.9	3428557.43	94.74	
Sc	45	He	376136.31	0.1	410812.74	91.56	
Ge	72	He	350596.05	0.8	381599.59	91.88	
In	115	He	3595364.71	0.7	3827432.7	93.94	
Lu	175	He	8963098.81	1.5	8955047.42	100.09	
Th	232	He	15160996.86	1.9	14651428.53	103.48	

Sample Report

Sample Name K2507459-023
File Name 060SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:28:51
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9466.0614	ug/l	3.5	497261793.57	
Se	77	72	H2	1.8577	ug/l	2.1	3478.03	
Se	78	72	H2	1.4860	ug/l	0.2	3128.96	
Cr	52	72	He	15.3859	ug/l	0.9	198639.56	
Cr	53	72	He	15.3906	ug/l	1.4	24642.00	
Ni	60	72	He	33.5475	ug/l	1.3	251300.97	
Ni	62	72	He	33.8563	ug/l	2.5	39576.58	
Cu	63	72	He	45.0331	ug/l	0.7	977332.95	
Cu	65	72	He	44.9692	ug/l	1.3	484371.25	
Zn	66	72	He	148.0607	ug/l	1.0	386565.23	
As	75	72	He	19.1750	ug/l	1.5	30304.45	
Mo	95	115	He	1.9144	ug/l	1.2	17974.15	
Mo	98	115	He	1.9519	ug/l	2.5	31823.65	
Ag	107	115	He	0.1094	ug/l	2.5	3891.59	
Ag	109	115	He	0.1076	ug/l	3.9	3774.90	
Cd	111	115	He	0.7336	ug/l	4.5	3095.79	
Cd	114	115	He	0.7494	ug/l	2.5	8287.57	
[Pb]	206	175	He	7.1169	ug/l	0.9	170731.96	
[Pb]	207	175	He	6.9832	ug/l	0.5	142033.57	
Pb	208	175	He	6.9671	ug/l	0.9	668946.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	677248.53	1.0	631862.72	107.18	
Sc	45	No Gas	17770852.07	2.3	17871068.18	99.44	
Ge	72	H2	3293446.68	0.7	3428557.43	96.06	
Sc	45	He	391145.71	0.9	410812.74	95.21	
Ge	72	He	354911.53	0.8	381599.59	93.01	
In	115	He	3665816.96	0.9	3827432.7	95.78	
Lu	175	He	8889314.93	1.5	8955047.42	99.27	
Th	232	He	15129378.11	0.5	14651428.53	103.26	

Sample Report

Sample Name K2507459-024
File Name 061SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:31:27
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8975.6687	ug/l	5.0	489401278.33	
Se	77	72	H2	2.1261	ug/l	13.9	3629.39	
Se	78	72	H2	1.6947	ug/l	3.5	3537.71	
Cr	52	72	He	14.8214	ug/l	0.9	188569.54	
Cr	53	72	He	14.4568	ug/l	0.8	22825.06	
Ni	60	72	He	31.9065	ug/l	0.6	235502.26	
Ni	62	72	He	32.4395	ug/l	3.2	37353.83	
Cu	63	72	He	49.6812	ug/l	0.7	1062189.75	
Cu	65	72	He	50.1162	ug/l	1.0	531802.15	
Zn	66	72	He	148.8440	ug/l	0.9	382867.84	
As	75	72	He	17.2065	ug/l	1.1	26798.29	
Mo	95	115	He	2.0004	ug/l	0.6	18409.06	
Mo	98	115	He	1.9574	ug/l	1.1	31294.90	
Ag	107	115	He	0.1542	ug/l	1.1	5354.23	
Ag	109	115	He	0.1558	ug/l	5.0	5343.12	
Cd	111	115	He	0.7680	ug/l	1.6	3177.81	
Cd	114	115	He	0.7929	ug/l	1.3	8595.90	
[Pb]	206	175	He	7.0462	ug/l	0.6	169043.26	
[Pb]	207	175	He	6.8590	ug/l	0.7	139519.11	
Pb	208	175	He	6.8440	ug/l	0.5	657185.28	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	703421.88	1.7	631862.72	111.33	
Sc	45	No Gas	17779650.96	0.6	17871068.18	99.49	
Ge	72	H2	3272356.40	0.8	3428557.43	95.44	
Sc	45	He	389196.48	1.1	410812.74	94.74	
Ge	72	He	349686.42	0.6	381599.59	91.64	
In	115	He	3594439.52	0.3	3827432.7	93.91	
Lu	175	He	8888626.04	0.7	8955047.42	99.26	
Th	232	He	15334551.85	0.8	14651428.53	104.66	

Sample Report

Sample Name K2507459-025
File Name 062SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\080125A.b
Acq Time 2025-08-01 10:34:01
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
NoUser
QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8869.0087	ug/l	3.0	479190807.63	
Se	77	72	H2	0.8227	ug/l	14.0	2759.90	
Se	78	72	H2	0.7027	ug/l	3.1	1486.07	
Cr	52	72	He	15.0400	ug/l	1.3	192291.91	
Cr	53	72	He	15.0837	ug/l	1.6	23918.80	
Ni	60	72	He	24.9352	ug/l	0.8	184968.93	
Ni	62	72	He	24.9169	ug/l	1.4	28840.86	
Cu	63	72	He	40.7108	ug/l	0.5	874870.35	
Cu	65	72	He	41.0115	ug/l	0.7	437413.46	
Zn	66	72	He	101.4891	ug/l	0.4	262537.83	
As	75	72	He	10.7244	ug/l	1.5	16797.92	
Mo	95	115	He	1.2709	ug/l	0.5	11882.06	
Mo	98	115	He	1.2966	ug/l	1.7	21068.85	
Ag	107	115	He	0.0593	ug/l	5.8	2116.82	
Ag	109	115	He	0.0612	ug/l	5.2	2145.71	
Cd	111	115	He	0.3996	ug/l	1.8	1677.09	
Cd	114	115	He	0.4277	ug/l	0.7	4708.67	
[Pb]	206	175	He	5.3717	ug/l	2.0	128874.38	
[Pb]	207	175	He	5.2205	ug/l	1.2	106203.65	
Pb	208	175	He	5.2222	ug/l	1.3	501514.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	696624.73	0.6	631862.72	110.25	
Sc	45	No Gas	17782179.85	2.0	17871068.18	99.5	
Ge	72	H2	3245381.12	0.8	3428557.43	94.66	
Sc	45	He	390464.20	1.2	410812.74	95.05	
Ge	72	He	351411.33	0.4	381599.59	92.09	
In	115	He	3633012.44	0.4	3827432.7	94.92	
Lu	175	He	8874488.26	0.6	8955047.42	99.1	
Th	232	He	15199228.52	1.5	14651428.53	103.74	

Sample Report

Sample Name K2507459-026
File Name 063SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:36:36
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	9804.7141	ug/l	3.6	538510360.82	
Se	77	72	H2	1.1684	ug/l	19.5	2978.93	
Se	78	72	H2	0.8933	ug/l	3.7	1873.44	
Cr	52	72	He	17.0645	ug/l	1.1	214951.19	
Cr	53	72	He	16.9577	ug/l	1.6	26474.71	
Ni	60	72	He	31.4111	ug/l	1.3	229678.58	
Ni	62	72	He	31.5853	ug/l	0.2	36037.71	
Cu	63	72	He	44.5690	ug/l	0.6	944100.59	
Cu	65	72	He	44.5452	ug/l	0.3	468345.22	
Zn	66	72	He	106.7357	ug/l	0.7	272176.95	
As	75	72	He	12.1133	ug/l	1.1	18698.88	
Mo	95	115	He	1.7690	ug/l	0.5	16390.32	
Mo	98	115	He	1.7654	ug/l	1.6	28415.30	
Ag	107	115	He	0.1058	ug/l	5.9	3711.55	
Ag	109	115	He	0.1061	ug/l	4.2	3671.55	
Cd	111	115	He	0.3222	ug/l	2.5	1347.39	
Cd	114	115	He	0.3660	ug/l	2.1	4016.82	
[Pb]	206	175	He	5.8985	ug/l	1.0	143117.82	
[Pb]	207	175	He	5.7567	ug/l	1.7	118418.97	
Pb	208	175	He	5.7740	ug/l	1.3	560722.65	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	708259.07	0.4	631862.72	112.09	
Sc	45	No Gas	17713065.41	1.0	17871068.18	99.12	
Ge	72	H2	3244122.10	2.8	3428557.43	94.62	
Sc	45	He	384250.28	1.4	410812.74	93.53	
Ge	72	He	346436.57	1.0	381599.59	90.79	
In	115	He	3614513.96	0.6	3827432.7	94.44	
Lu	175	He	8981166.59	1.8	8955047.42	100.29	
Th	232	He	15290714.77	1.6	14651428.53	104.36	

Sample Report

Sample Name K2507459-027
File Name 064SMPL.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:39:10
Sample Type Sample
Comment 10X
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	8095.1544	ug/l	4.1	445165440.09	
Se	77	72	H2	1.2262	ug/l	3.7	2994.27	
Se	78	72	H2	1.1247	ug/l	3.3	2325.50	
Cr	52	72	He	13.6206	ug/l	0.6	171951.06	
Cr	53	72	He	13.4691	ug/l	0.8	21110.73	
Ni	60	72	He	25.3209	ug/l	1.2	185382.85	
Ni	62	72	He	25.4441	ug/l	1.2	29066.74	
Cu	63	72	He	32.0949	ug/l	0.3	680879.16	
Cu	65	72	He	32.3142	ug/l	0.9	340244.39	
Zn	66	72	He	102.5393	ug/l	0.9	261793.31	
As	75	72	He	10.8262	ug/l	0.8	16735.52	
Mo	95	115	He	1.3986	ug/l	2.5	12939.50	
Mo	98	115	He	1.3604	ug/l	4.4	21882.18	
Ag	107	115	He	0.0745	ug/l	4.4	2618.01	
Ag	109	115	He	0.0749	ug/l	4.3	2590.22	
Cd	111	115	He	0.4746	ug/l	1.1	1971.62	
Cd	114	115	He	0.5050	ug/l	1.6	5500.25	
[Pb]	206	175	He	4.7635	ug/l	0.5	117581.94	
[Pb]	207	175	He	4.6497	ug/l	1.5	97312.83	
Pb	208	175	He	4.6408	ug/l	1.4	458506.16	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	709144.45	0.8	631862.72	112.23	
Sc	45	No Gas	17262457.09	2.1	17871068.18	96.59	
Ge	72	H2	3217595.78	2.3	3428557.43	93.85	
Sc	45	He	387419.09	0.8	410812.74	94.31	
Ge	72	He	346829.25	0.0	381599.59	90.89	
In	115	He	3600480.02	2.1	3827432.7	94.07	
Lu	175	He	9122071.86	1.3	8955047.42	101.87	
Th	232	He	15059387.69	1.3	14651428.53	102.78	

Continuing Calibration Verification (CCV) Report

Sample Name CCV
File Name 065_CCV.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:42:23
Sample Type CCV
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	% Rec	QC Flag
Al	27	6	No Gas	233.1022	ug/l	5.4	12766019.49	93.24	
Se	77	72	H2	24.7806	ug/l	0.9	18361.20	99.12	
Se	78	72	H2	24.9360	ug/l	1.0	51301.52	99.74	
Cr	52	72	He	25.1076	ug/l	1.0	323375.36	100.43	
Cr	53	72	He	25.0417	ug/l	0.7	39889.18	100.17	
Ni	60	72	He	25.2811	ug/l	0.6	189270.58	101.12	
Ni	62	72	He	25.2254	ug/l	0.1	29467.48	100.9	
Cu	63	72	He	25.3338	ug/l	1.5	549753.42	101.34	
Cu	65	72	He	25.3930	ug/l	0.1	273485.30	101.57	
Zn	66	72	He	25.3920	ug/l	1.2	66733.49	101.57	
As	75	72	He	25.0399	ug/l	1.0	39536.53	100.16	
Mo	95	115	He	12.2580	ug/l	2.7	114959.31	98.06	
Mo	98	115	He	12.2125	ug/l	1.3	198693.95	97.7	
Ag	107	115	He	12.3580	ug/l	2.6	435968.78	98.86	
Ag	109	115	He	12.3030	ug/l	2.4	429957.79	98.42	
Cd	111	115	He	24.4334	ug/l	2.4	103443.90	97.73	
Cd	114	115	He	24.5084	ug/l	2.6	271333.46	98.03	
[Pb]	206	175	He	24.4325	ug/l	0.5	585673.45	97.73	
[Pb]	207	175	He	24.9010	ug/l	1.1	505904.51	99.6	
Pb	208	175	He	24.6257	ug/l	0.9	2362100.55	98.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	705738.46	1.5	631862.72	111.69	
Sc	45	No Gas	18141953.72	1.9	17871068.18	101.52	
Ge	72	H2	3271380.50	0.8	3428557.43	95.42	
Sc	45	He	379738.08	0.7	410812.74	92.44	
Ge	72	He	354656.77	0.3	381599.59	92.94	
In	115	He	3692794.47	3.0	3827432.7	96.48	
Lu	175	He	8915298.54	0.8	8955047.42	99.56	
Th	232	He	15115990.61	1.4	14651428.53	103.17	

Continuing Calibration Blank (CCB) Report

Sample Name CCB
File Name 066_CCB.d
Data Path Name D:\Agilent\ICPMH1\DATA\080125A.b
Acq Time 2025-08-01 10:44:59
Sample Type CCB
Comment ---
ISTD Ref FileName 003CALB.d
Operator ALKLS
QC Analyte Table NoUser

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Al	27	6	No Gas	0.6709	ug/l	6.7	45135.09	
Se	77	72	H2	-0.1765	ug/l	N/A	2127.80	
Se	78	72	H2	0.0515	ug/l	31.1	159.67	
Cr	52	72	He	0.0006	ug/l	229.1	865.59	
Cr	53	72	He	0.0099	ug/l	305.8	293.34	
Ni	60	72	He	0.0021	ug/l	124.1	73.33	
Ni	62	72	He	-0.0091	ug/l	N/A	6.67	
Cu	63	72	He	0.0010	ug/l	395.2	804.47	
Cu	65	72	He	0.0070	ug/l	112.8	446.68	
Zn	66	72	He	0.0487	ug/l	95.3	693.35	
As	75	72	He	0.0189	ug/l	39.1	62.33	
Mo	95	115	He	0.0348	ug/l	22.5	481.12	
Mo	98	115	He	0.0308	ug/l	19.7	828.91	
Ag	107	115	He	-0.0001	ug/l	N/A	53.33	
Ag	109	115	He	0.0010	ug/l	71.6	72.22	
Cd	111	115	He	0.0033	ug/l	60.7	25.33	
Cd	114	115	He	0.0033	ug/l	35.5	84.17	
[Pb]	206	175	He	-0.0062	ug/l	N/A	756.69	
[Pb]	207	175	He	-0.0086	ug/l	N/A	614.46	
Pb	208	175	He	-0.0069	ug/l	N/A	3006.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	QC Flag
Li	6	No Gas	653752.63	1.2	631862.72	103.46	
Sc	45	No Gas	17168503.21	2.7	17871068.18	96.07	
Ge	72	H2	3267818.27	2.5	3428557.43	95.31	
Sc	45	He	375849.04	1.1	410812.74	91.49	
Ge	72	He	344679.03	0.2	381599.59	90.32	
In	115	He	3589244.89	2.7	3827432.7	93.78	
Lu	175	He	8836749.37	2.0	8955047.42	98.68	
Th	232	He	14999590.19	1.0	14651428.53	102.38	

CVAA Mercury Soil Data Review Form

K-CVAA-04

Element: Hg

Analysis Lot #: 080425A HG4

Starlims #: 888470

Cal. STD/CCV Source: HG4-27-R

Pipette IDs: HG-43188965/HG-39591307

16mL Tube Lot #: P7727831

KMnO4: HG4-26-T Expiration Date: 7/15/2026

NH2OH-HCl/NaCl HG4-27-L Expiration Date: 7/30/2026

SnCl2/HCl: HG4-27-E Expiration Date: 7/28/2026

Service Request Numbers:
K2507452, K2507459, K2507460, K2507515, T2501266, T2501290

	Yes	No	NA
1) Appropriate standardization completed	<u>X</u>	<u> </u>	<u> </u>
2) ICV within 10% of true value	<u>X</u>	<u> </u>	<u> </u>
3) CCVs in control (+/- 10%)	<u>X</u>	<u> </u>	<u> </u>
4) CCBs and or ICBs below MRL	<u>X</u>	<u> </u>	<u> </u>
5) CCV/CCB check run every 10 samples	<u>X</u>	<u> </u>	<u> </u>
6) All reported samples within calibration range	<u>X</u>	<u> </u>	<u> </u>
7) Percent relative errors in control	<u>X</u>	<u> </u>	<u> </u>
8) Calculations correct	<u>X</u>	<u> </u>	<u> </u>

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: MS (Initials)

Primary Reviewed By: MS Date: 8/4/25

Secondary Reviewed By: KL Date: 8/4/25

Data Review Form

Instrument ID#: **K-CVAA-04**
DataFile Name: **R:\ICP\WIP\DATA\K-CVAA-04 (M-7600)\080425A HG4.csv**
RUNNO: **888470**

K2507452

K2507452-001DUP - Hg - ● Non Homogeneous sample 8/4/25 *MS*
DUP RPD
7471B/Hg - HG - RPD: 25 Limit: 20
K2507452-001MS - Hg - ● MS Failure
MS Recovery PS Passed 8/4/25 *MS*
7471B/Hg - HG - Recovery: 69 Limits: 80 - 120

K2507459

No exceptions to report.

K2507460

K2507452-001DUP - Hg - ●
DUP RPD
7471B/Hg - HG - RPD: 25 Limit: 20
K2507452-001MS - Hg - ●
MS Recovery
7471B/Hg - HG - Recovery: 69 Limits: 80 - 120

K2507515

K2507452-001DUP - Hg - ●
DUP RPD
7471B/Hg - HG - RPD: 25 Limit: 20
K2507452-001MS - Hg - ●
MS Recovery
7471B/Hg - HG - Recovery: 69 Limits: 80 - 120

T2501266

K2507452-001DUP - Hg - ●
DUP RPD
7471B/Hg - HG - RPD: 25 Limit: 20
K2507452-001MS - Hg - ●
MS Recovery
7471B/Hg - HG - Recovery: 69 Limits: 80 - 120

T2501290

K2507452-001DUP - Hg - ●
DUP RPD
7471B/Hg - HG - RPD: 25 Limit: 20

Primary Approver: *MS* 8/4/25
Secondary Approver: KL 8/4/25

Data Review Form

Instrument ID#: **K-CVAA-04**
DataFile Name: **R:\ICP\WIP\DATA\K-CVAA-04 (M-7600)\080425A HG4.csv**
RUNNO: **888470**

K2507452-001MS - Hg - ●

MS Recovery

7471B/Hg - HG - Recovery: 69 Limits: 80 - 120

CVAA Hg ANALYTICAL WORKSHEET

Method: 7471	Cal. Inter. Std* (100ppb): HG4-27-R 2nd Source Inter Std** (1ppm): HG4-27-N
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Analysis For: Hg **DATA**

Pos.	SAMPLE NUMBER	Measured (µg/L)	Dilution Factor	Recoveries (ICV, CCV, LCS, MS)		Comments:
1	Cal. Blk.	0.000	~	~		
2	Std 0.2*	0.200	~	(0.1-50mL)		
3	Std 0.5*	0.500	~	(0.25-50mL)		
4	Std 1.0*	1.000	~	(0.5-50mL)		
5	Std 5.0*	5.000	~	(2.5-50mL)		
6	Std 10.0*	10.000	~	(5.0-50mL)		
7	ICV1**	4.901	~	98%		
8	ICB1	-0.007	~			
9	LLICV1*	0.19	~	95%		
10	CCV1*	4.956	~	99%		
11	CCB1	-0.003	~			
12	KQ2513447-03	-0.001	~			
13	KQ2513447-04	4.957	~	99%		
14	K2507452-001	9.530	~			8/4/25 MS
15	K2507452-001 2X	4.834	2			
16	KQ2513447-01 2X	6.446	2			
17	KQ2513447-02 2X	6.644	2	69%		MS Failure
18	K2507452-001A 2X	9.711	2	98%		PS Passed 8/4/25 MS
19	K2507452-002	6.217	~			
20	K2507452-003	6.954	~			
21	K2507460-008	0.162	~			
22	CCV2	4.951	~	99%		
23	CCB2	-0.005	~			
24	K2507515-001	0.108	~			
25	T2501266-001	0.754	~			
26	T2501290-001	0.067	~			
27	T2501290-002	0.125	~			
28	T2501290-003	0.088	~			
29	K2507452-003L 5X	1.425	5	2%D		
30	KQ2513496-03	-0.006	~			
31	KQ2513496-04	4.910	~	98%		
32	K2507459-001	0.077	~			

Comments:

Soil/Tissue Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	80-120%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCS	0.5mg/kg	0.02 mg/kg	80-120%	80-120%	20%	+/- 20%
7471B Tissue Dorm	0.316mg/kg	0.02 mg/kg	76-126%	80-120%	20%	MSA

CVAA Hg ANALYTICAL WORKSHEET

Analysis For: Hg		DATA				
Pos.	SAMPLE NUMBER	Measured (µg/L)	Dilution Factor	Recoveries (ICV, CCV, LCS, MS)		Comments:
33	KQ2513496-01	0.208	~			
34	CCV3	4.901	~	98%		
35	CCB3	-0.003	~			
36	KQ2513496-02	4.995	~	98%		
37	K2507459-001A	5.026	~	99%		
38	K2507459-002	0.664	~			
39	K2507459-003	0.120	~			
40	K2507459-004	0.381	~			
41	K2507459-005	0.488	~			
42	K2507459-006	0.256	~			
43	K2507459-007	0.665	~			
44	K2507459-008	0.270	~			
45	K2507459-009	0.232	~			
46	CCV4	4.892	~	98%		
47	CCB4	-0.006	~			
48	K2507459-010	0.197	~			
49	K2507459-011	0.178	~			
50	K2507459-012	0.117	~			
51	K2507459-013	0.146	~			
52	K2507459-014	0.752	~			
53	K2507459-015	0.162	~			
54	K2507459-016	0.127	~			
55	K2507459-017	0.106	~			
56	K2507459-018	0.210	~			
57	KQ2513497-03	0.014	~			
58	CCV5	4.890	~	98%		
59	CCB5	-0.001	~			
60	KQ2513497-04	4.915	~	98%		
61	K2507459-019	0.183	~			
62	KQ2513497-01	0.137	~			
63	KQ2513497-02	4.987	~	96%		
64	K2507459-019A	5.100	~	98%		
Comments:						
Soil/Tissue Spike Level:						
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	80-120%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCS	0.5mg/kg	0.02 mg/kg	80-120%	80-120%	20%	+/- 20%
7471B Tissue Dorm	0.316mg/kg	0.02 mg/kg	76-126%	80-120%	20%	MSA

CVAA Hg ANALYTICAL WORKSHEET

Analysis For: Hg		DATA				
Pos.	SAMPLE NUMBER	Measured (µg/L)	Dilution Factor	Recoveries (ICV, CCV, LCS, MS)		Comments:
65	K2507459-020	0.139	~			
66	K2507459-021	0.446	~			
67	K2507459-022	0.606	~			
68	K2507459-023	0.525	~			
69	K2507459-024	0.422	~			
70	CCV6	4.884	~	98%		
71	CCB6	-0.005	~			
72	K2507459-025	0.370	~			
73	K2507459-026	0.410	~			
74	K2507459-027	0.470	~			
75	CCV7	4.882	~	98%		
76	CCB7	-0.004	~			
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						

Comments:

Soil/Tissue Spike Level:						
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	80-120%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCS	0.5mg/kg	0.02 mg/kg	80-120%	80-120%	20%	+/- 20%
7471B Tissue Dorm	0.316mg/kg	0.02 mg/kg	76-126%	80-120%	20%	MSA

Report Generated By Teledyne Leeman QuickTrace

Analyst: alkls.nouser

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\080425A HG4.wszf

Creation Date: 8/4/2025 8:50:36 AM

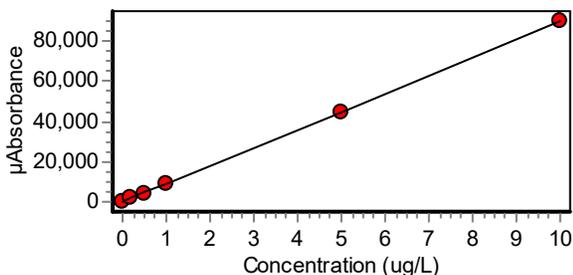
Comment:

Results

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type	Conc (ug/L)	µAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
				Spike Vol	% Recovery						
Calibration Blank				STD	0.000	139	19.40				
			1.0000		N/A						
Replicates	159.5			99.7	152.9	143.7					
Standard #1 (0.2 ug/L)				STD	0.200	1844	1.09	-4.60%			
			1.0000		N/A						
Replicates	1867.5			1820.6	1850.9	1835.7					
Standard #2 (0.5 ug/L)				STD	0.500	4456	1.51	-3.37%			
			1.0000		N/A						
Replicates	4380.2			4500.5	4523.1	4418.3					
Standard #3 (1 ug/L)				STD	1.000	8764	0.63	-3.46%			
			1.0000		N/A						
Replicates	8707.4			8797.4	8824.2	8727.4					
Standard #4 (5 ug/L)				STD	5.000	44246	0.35	-1.26%			
			1.0000		N/A						
Replicates	44157.9			44405.3	44342.5	44080.1					
Standard #5 (10 ug/L)				STD	10.000	89807	0.70	0.36%			
			1.0000		N/A						
Replicates	89107.5			89914.5	90599.3	89604.8					

Calibration

Equation: Abs = 8934.498x + 138.940
 R2: 0.99990 RSE: 3.93%
 SEE: 427.5602
 Flags:



ICV1				ICV	4.901	43923	0.62				
			1.0000		98.01						
Replicates	44219.3			44072.0	43771.7	43627.2					
ICB1				ICB	-0.007	74	27.63				
			1.0000		N/A						
Replicates	90.5			56.1	61.0	88.3					
LLICV1				CRDL	0.190	1840	1.25				
			1.0000		95.17						
Replicates	1828.0			1847.2	1865.4	1817.4					

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type	Conc (ug/L)	µAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
				Spike Vol	% Recovery						
CCV1				CCV	4.956	44417	0.77				
			1.0000		99.12						
Replicates	44569.5	44648.4	44538.1	43911.2							
CCB1				CCB	-0.003	114	97.28				
			1.0000		N/A						
Replicates	121.8	124.3	132.2	79.0							
KQ2513447-03				UNK	-0.001	130	166.86				
			1.0000		N/A						
Replicates	129.5	150.0	126.1	116.0							
KQ2513447-04				UNK	4.957	44431	0.55				
			1.0000		N/A						
Replicates	44684.0	44520.0	44414.7	44103.7							
K2507452-001				UNK	9.530	85282	0.40				
			1.0000		N/A						
Replicates	85339.0	85537.5	85465.2	84787.4					8/4/25 MS		
K2507452-001 2X				UNK	4.834	43332	0.54				
			1.0000		N/A						
Replicates	43389.0	43494.0	43455.3	42989.5							
KQ2513447-01 2X				UNK	6.446	57726	0.56				
			1.0000		N/A						
Replicates	57764.0	57957.3	57920.0	57263.1							
KQ2513447-02 2X				UNK	6.644	59495	0.51				
			1.0000		N/A						
Replicates	59543.3	59721.5	59659.0	59056.0							
K2507452-001A 2X				UNK	9.710	86898	0.57				
			1.0000		N/A						
Replicates	86994.3	87284.8	87136.0	86176.0							
K2507452-002				UNK	6.217	55683	0.43				
			1.0000		N/A						
Replicates	55709.5	55864.0	55821.1	55337.8							
K2507452-003				UNK	6.954	62271	0.43				
			1.0000		N/A						
Replicates	62314.3	62480.9	62407.4	61882.4							
K2507460-008				UNK	0.162	1584	0.93				
			1.0000		N/A						
Replicates	1582.9	1565.9	1597.8	1588.8							
CCV2				CCV	4.951	44372	0.35				
			1.0000		99.02						
Replicates	44302.3	44445.5	44546.8	44192.1							
CCB2				CCB	-0.005	94	21.64				
			1.0000		N/A						
Replicates	81.3	102.1	91.5	101.1							

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type Spike Vol	Conc (ug/L) % Recovery	µAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
K2507515-001				UNK	0.108	1103	0.81				
			1.0000		N/A						
Replicates	1095.9		1114.4		1101.4	1101.4					
T2501266-001				UNK	0.754	6873	0.93				
			1.0000		N/A						
Replicates	6788.9		6863.3		6910.0	6929.3					
T2501290-001				UNK	0.067	736	2.05				
			1.0000		N/A						
Replicates	729.7		722.9		750.9	740.1					
T2501290-002				UNK	0.125	1254	1.18				
			1.0000		N/A						
Replicates	1254.9		1235.4		1258.6	1266.4					
T2501290-003				UNK	0.088	928	2.50				
			1.0000		N/A						
Replicates	913.0		911.4		935.7	952.7					
K2507452-003L 5X				UNK	1.425	12868	0.51				
			1.0000		N/A						
Replicates	12875.8		12888.9		12930.8	12776.4					
KQ2513496-03				UNK	-0.006	84	20.39				
			1.0000		N/A						
Replicates	99.3		86.0		75.0	76.6					
KQ2513496-04				UNK	4.910	44010	0.51				
			1.0000		N/A						
Replicates	44047.3		44150.4		44156.7	43684.0					
K2507459-001				UNK	0.077	826	0.94				
			1.0000		N/A						
Replicates	824.5		829.0		832.8	817.8					
KQ2513496-01				UNK	0.208	1996	0.89				
			1.0000		N/A						
Replicates	2012.5		1974.1		1992.9	2003.9					
CCV3				CCV	4.901	43925	0.32				
			1.0000		98.02						
Replicates	43928.1		44041.6		44004.9	43724.1					
CCB3				CCB	-0.003	111	27.81				
			1.0000		N/A						
Replicates	107.9		117.0		118.2	102.0					
KQ2513496-02				UNK	4.995	44766	0.42				
			1.0000		N/A						
Replicates	44752.9		44898.0		44909.5	44502.8					
K2507459-001A				UNK	5.026	45044	0.41				
			1.0000		N/A						
Replicates	45028.4		45170.8		45188.9	44787.3					

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type Spike Vol	Conc (ug/L) % Recovery	µAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
K2507459-002				UNK	0.664	6073	0.46				
		1.0000			N/A						
Replicates	6077.6		6109.2	6058.9	6046.2						
K2507459-003				UNK	0.120	1208	1.46				
		1.0000			N/A						
Replicates	1207.8		1194.6	1229.5	1198.6						
K2507459-004				UNK	0.381	3544	0.68				
		1.0000			N/A						
Replicates	3547.3		3560.5	3556.7	3509.9						
K2507459-005				UNK	0.488	4496	0.35				
		1.0000			N/A						
Replicates	4502.5		4506.6	4502.0	4473.1						
K2507459-006				UNK	0.256	2430	0.75				
		1.0000			N/A						
Replicates	2409.0		2440.0	2447.3	2423.5						
K2507459-007				UNK	0.665	6083	0.42				
		1.0000			N/A						
Replicates	6102.5		6080.8	6099.8	6049.0						
K2507459-008				UNK	0.270	2550	0.60				
		1.0000			N/A						
Replicates	2557.4		2535.8	2566.8	2540.6						
K2507459-009				UNK	0.232	2211	0.68				
		1.0000			N/A						
Replicates	2199.3		2213.3	2202.7	2230.7						
CCV4				CCV	4.892	43844	0.45				
		1.0000			97.83						
Replicates	43857.7		43977.6	43977.3	43564.0						
CCB4				CCB	-0.006	89	28.44				
		1.0000			N/A						
Replicates	110.1		84.9	79.2	82.7						
K2507459-010				UNK	0.197	1898	0.71				
		1.0000			N/A						
Replicates	1915.2		1899.9	1891.4	1886.8						
K2507459-011				UNK	0.178	1726	1.62				
		1.0000			N/A						
Replicates	1735.1		1717.5	1755.2	1694.9						
K2507459-012				UNK	0.117	1182	1.09				
		1.0000			N/A						
Replicates	1188.3		1176.4	1168.2	1193.4						
K2507459-013				UNK	0.146	1445	1.34				
		1.0000			N/A						
Replicates	1452.9		1454.3	1453.1	1418.5						

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type Spike Vol	Conc (ug/L) % Recovery	µAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
K2507459-014				UNK	0.752	6859	0.56				
			1.0000		N/A						
Replicates	6876.9		6875.9	6881.4	6803.0						
K2507459-015				UNK	0.162	1588	1.04				
			1.0000		N/A						
Replicates	1610.6		1582.9	1582.8	1577.3						
K2507459-016				UNK	0.127	1269	0.65				
			1.0000		N/A						
Replicates	1275.3		1261.7	1264.6	1275.9						
K2507459-017				UNK	0.106	1083	0.91				
			1.0000		N/A						
Replicates	1090.5		1088.2	1080.7	1071.5						
K2507459-018				UNK	0.210	2019	0.93				
			1.0000		N/A						
Replicates	2003.1		2038.7	2028.1	2005.2						
KQ2513497-03				UNK	0.014	263	11.38				
			1.0000		N/A						
Replicates	257.9		247.4	265.7	280.9						
CCV5				CCV	4.890	43832	0.44				
			1.0000		97.81						
Replicates	43821.3		43946.0	43998.5	43563.0						
CCB5				CCB	-0.001	127	96.67				
			1.0000		N/A						
Replicates	131.1		141.5	120.0	117.0						
KQ2513497-04				UNK	4.915	44050	0.37				
			1.0000		N/A						
Replicates	44043.9		44165.8	44168.0	43823.5						
K2507459-019				UNK	0.183	1771	0.95				
			1.0000		N/A						
Replicates	1787.4		1778.5	1767.9	1751.2						
KQ2513497-01				UNK	0.137	1360	0.76				
			1.0000		N/A						
Replicates	1359.6		1371.0	1361.1	1348.3						
KQ2513497-02				UNK	4.987	44694	0.42				
			1.0000		N/A						
Replicates	44686.0		44824.5	44833.1	44431.0						
K2507459-019A				UNK	5.100	45701	0.41				
			1.0000		N/A						
Replicates	45698.9		45824.0	45847.5	45435.3						
K2507459-020				UNK	0.139	1379	0.69				
			1.0000		N/A						
Replicates	1385.9		1378.5	1367.0	1384.3						

Sample Name	Aliq. Vol.	Diln. Vol	DF	Type Spike Vol	Conc (ug/L) % Recovery	μAbs	%RSD	Residual	Flags	Wt. (g)	Vol (ml)
K2507459-021				UNK	0.446	4127	0.79				
			1.0000		N/A						
Replicates	4107.6			4149.5	4158.5	4093.5					
K2507459-022				UNK	0.606	5553	0.49				
			1.0000		N/A						
Replicates	5521.1			5564.5	5582.5	5543.5					
K2507459-023				UNK	0.525	4828	0.72				
			1.0000		N/A						
Replicates	4845.1			4864.5	4815.5	4787.5					
K2507459-024				UNK	0.422	3909	0.17				
			1.0000		N/A						
Replicates	3905.6			3915.3	3912.3	3901.0					
CCV6				CCV	4.884	43773	0.45				
			1.0000		97.68						
Replicates	43796.6			43893.7	43910.6	43490.6					
CCB6				CCB	-0.005	90	10.85				
			1.0000		N/A						
Replicates	90.1			97.5	85.0	88.3					
K2507459-025				UNK	0.370	3447	0.19				
			1.0000		N/A						
Replicates	3453.9			3450.6	3444.7	3440.1					
K2507459-026				UNK	0.410	3805	0.58				
			1.0000		N/A						
Replicates	3799.3			3828.1	3815.3	3779.0					
K2507459-027				UNK	0.470	4335	0.52				
			1.0000		N/A						
Replicates	4334.9			4334.9	4362.9	4309.4					
CCV7				CCV	4.882	43755	0.45				
			1.0000		97.63						
Replicates	43795.2			43871.9	43884.3	43467.3					
CCB7				CCB	-0.004	103	49.20				
			1.0000		N/A						
Replicates	112.9			119.5	100.2	79.4					

Preparation Information Benchsheet

Prep Run#: 461591
 Team: Metals/MSOLADEY
 Number of Copies to make: 5

Prep Workflow: HgDigS
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 8/1/25 14:31

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513447-03	MB		7471B/Hg		Solid	0.5g	50.00mL	
2	KQ2513447-04	LCS		7471B/Hg		Solid	0.5g	50.00mL	
3	K2507452-001	WildCtCrk312-2507241010-SPC	.01	7471B/Hg		Sediment	0.508g	50.00mL	ZBIBI k-balance-50
4	KQ2513447-01	K2507452-001 DUP	.01	7471B/Hg		Solid	0.524g	50.00mL	ZBIBI k-balance-50
5	KQ2513447-02	K2507452-001 MS	.01	7471B/Hg		Solid	0.518g	50.00mL	ZBIBI k-balance-50
6	K2507452-002	WildCtCrk313-2507241015-SPC	.01	7471B/Hg		Sediment	0.545g	50.00mL	ZBIBI k-balance-50
7	K2507452-003	WildCtCrk314-2507241025-SPC	.01	7471B/Hg		Sediment	0.553g	50.00mL	ZBIBI k-balance-50
8	K2507460-008	Biosolids072925	.01	7471B/Hg		Biosolids Solids	0.528g	50.00mL	TRICKMAN K-BALANCE-55
9	K2507515-001	Kent WR Soil	.02	7471B/Hg		Soil	0.552g	50.00mL	ZBIBI k-balance-50
10	T2501266-001	Recycling or Athens -1" Wood fines	.01	7471B/Hg		Solid	0.565g	50.00mL	ZBIBI k-balance-50
11	T2501290-001	Bark composite 1	.07	7471B/Hg		Bark	0.509g	50.00mL	TRICKMAN K-BALANCE-55
12	T2501290-002	Bark composite 2	.07	7471B/Hg		Bark	0.568g	50.00mL	TRICKMAN K-BALANCE-55
13	T2501290-003	Bark composite 3	.07	7471B/Hg		Bark	0.552g	50.00mL	TRICKMAN K-BALANCE-55

Spiking Solutions

Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 243166	Logbook Ref: HG4-27-N	Expires On: 09/01/2025
--	---------------------	-----------------------	------------------------

KQ2513447-02 0.25mL KQ2513447-04 0.25mL

Preparation Materials

K-MET 100ml Centrifuge Tube LV24121002 (242799) K-MET HCl Hg 24G3162002 (241174) K-MET HNO3 Hg 23H1462001 (241175)

Preparation Steps

Step: Weigh	Step: Digestion
Started: 8/1/25 14:31	Started: 8/1/25 14:31
Finished: 8/1/25 15:01	Finished: 8/1/25 15:01
By: MSOLADEY	By: MSOLADEY
Comments	Comments

Preparation Equipment

K-Block-Digester-14	Digestion	IR Thermometer ID: IR03	K-Block-Digester-14	Digestion	Temperature	95.5 deg C
K-Block-Digester-14	Digestion	Temperature Check Location	21	Hg-43188965	Digestion	
K-U72662	Digestion			HG-39591307	Digestion	

Comments: Daily Cal Standard/ CCV Source: HG4-27-R

Preparation Information Benchsheet

Prep Run#: 461591
Team: Metals/MSOLADEY

Prep WorkFlow: HgDigS
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/1/25 14:31

Reviewed By: KL Date: 8/4/25

Preparation Information Benchsheet

Prep Run#: 461591
 Team: Metals/ZBIBI
 Number of Copies to make: 5

Prep Workflow: HgDigS
 Prep Method: Method

Status: Draft
 Prep Date/Time: 7/30/25 10:44 AM

#	Lab Code	Client ID	B#	√	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513447-03	MB			7471B / Hg	Solid						
2	KQ2513447-04	LCS			7471B / Hg	Solid						
3	K2507452-001	WildCtCrk312-2507241010-SPC	.01		7471B / Hg	Sediment						
4	KQ2513447-01	K2507452-001 DUP	.01		7471B / Hg	Solid						
5	KQ2513447-02	K2507452-001 MS	.01		7471B / Hg	Solid						
6	K2507452-002	WildCtCrk313-2507241015-SPC	.01		7471B / Hg	Sediment						
7	K2507452-003	WildCtCrk314-2507241025-SPC	.01		7471B / Hg	Sediment						
8	K2507460-008	Biosolids072925	.01		7471B / Hg	Biosolids Solids						
9	K2507515-001	Kent WR Soil	.02		7471B / Hg	Soil						
10	T2501266-001	Recycling or Athens -1" Wood fines	.01		7471B / Hg	Solid						
11	T2501290-001	Bark composite 1	.07		7471B / Hg	Bark						
12	T2501290-002	Bark composite 2	.07		7471B / Hg	Bark						
13	T2501290-003	Bark composite 3	.07		7471B / Hg	Bark						

KM 204: H64-26-T

Comments: 60-14 PL: 21 9: 95.5

464-27-R

2:31-301

Surrogate ID: _____

Spike ID: _____

Witnessed By: _____

Analyst: _____

Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461591

Container Lot No: LV24090105

Prep Due Date: Aug-01-2025

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507452-001	.01	Hg : 7471B/	0.508g		ZBIBI k-balance-50
2	K2507452-001 DUP KQ2513447-01	.01	Hg : 7471B/	0.524g		ZBIBI k-balance-50
3	K2507452-001 MS KQ2513447-02	.01	Hg : 7471B/	0.518g		ZBIBI k-balance-50
4	K2507452-002	.01	Hg : 7471B/	0.545g		ZBIBI k-balance-50
5	K2507452-003	.01	Hg : 7471B/	0.553g		ZBIBI k-balance-50
6	T2501266-001	.01	Hg : 7471B/	0.565g		ZBIBI k-balance-50
7	T2501266-001 DUP KQ2513447-03	.01	Hg : 7471B/	0.547g		ZBIBI k-balance-50
8	T2501266-001 MS KQ2513447-04	.01	Hg : 7471B/	0.553g		ZBIBI k-balance-50

Relinquished By:	ZZB	Date/Time:	7/30/25 10:57	Received By:	<i>[Signature]</i>	Date/Time:	8/7/25 11:40
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Pre-Prep Information Benchsheet

Prep Run #: 461604

Container Lot No: LV24021002

Prep Due Date: Aug-01-2025

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507460-008	.01	Hg : 7471B/	0.528g		TRICKMAN K-BALANCE-55
2	K2507460-008 DUP KQ2513455-01	.01	Hg : 7471B/	0.511g		TRICKMAN K-BALANCE-55
3	K2507460-008 MS KQ2513455-02	.01	Hg : 7471B/	0.598g		TRICKMAN K-BALANCE-55

Relinquished By: <i>HL</i>	Date/Time: <i>7-30-25</i>	Received By: <i>my</i>	Date/Time: <i>8/1/25</i>
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Pre-Prep Information Benchsheet

Prep Run #: 461703

Container Lot No: LV24090105

Prep Due Date:

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507515-001	.02	Hg : 7471B/	0.552g		ZBIBI k-balance-50
2	K2507515-001 DUP KQ2513560-01	.02	Hg : 7471B/	0.524g		ZBIBI k-balance-50
3	K2507515-001 MS KQ2513560-02	.02	Hg : 7471B/	0.555g		ZBIBI k-balance-50

Relinquished By:	223	Date/Time:	7/31/25 11:17	Received By:	<i>my</i>	Date/Time:	8/1/25 1:40
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Pre-Prep Information Benchsheet

Prep Run #: 461719

Container Lot No: LV24021002

Prep Due Date: Aug-05-2025

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	T2501290-001	.07	Hg : 7471B/	0.509g		TRICKMAN K-BALANCE-55
2	T2501290-001 DUP KQ2513586-01	.07	Hg : 7471B/	0.534g		TRICKMAN K-BALANCE-55
3	T2501290-001 MS KQ2513586-02	.07	Hg : 7471B/	0.556g		TRICKMAN K-BALANCE-55
4	T2501290-002	.07	Hg : 7471B/	0.568g		TRICKMAN K-BALANCE-55
5	T2501290-003	.07	Hg : 7471B/	0.552g		TRICKMAN K-BALANCE-55

Relinquished By: <i>JL</i>	Date/Time: <i>7-31-25 13:35</i>	Received By: <i>WJY</i>	Date/Time: <i>8/1/25 1:40</i>
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Preparation Information Benchsheet

Prep Run#: 461639

Team: Metals/MSOLADEY

Prep Workflow: HgDigS

Prep Method: Method

Status: Prepped

Prep Date/Time: 8/1/25 14:31

Number of Copies to make: 1

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513496-03	MB		7471A/Hg		Solid	0.5g	50.00mL	
2	KQ2513496-04	LCS		7471A/Hg		Solid	0.5g	50.00mL	
3	K2507459-001	2025KGMUJCSP1S1	.03	7471A/Hg		Soil	0.576g	50.00mL	ZBIBI k-balance-50
4	KQ2513496-01	K2507459-001 DUP	.03	7471A/Hg		Solid	0.578g	50.00mL	ZBIBI k-balance-50
5	KQ2513496-02	K2507459-001 MS	.03	7471A/Hg		Solid	0.552g	50.00mL	ZBIBI k-balance-50
6	K2507459-002	2025KGMUJCSP1S2	.03	7471A/Hg		Soil	0.536g	50.00mL	ZBIBI k-balance-50
7	K2507459-003	2025KGMUJCSP1S3	.03	7471A/Hg		Soil	0.550g	50.00mL	ZBIBI k-balance-50
8	K2507459-004	2025KGMLJCS1	.03	7471A/Hg		Soil	0.521g	50.00mL	ZBIBI k-balance-50
9	K2507459-005	2025KGMLJCS2	.03	7471A/Hg		Soil	0.534g	50.00mL	ZBIBI k-balance-50
10	K2507459-006	2025KGMLJCS3	.03	7471A/Hg		Soil	0.515g	50.00mL	ZBIBI k-balance-50
11	K2507459-007	2025KGMFSCS2	.03	7471A/Hg		Soil	0.577g	50.00mL	ZBIBI k-balance-50
12	K2507459-008	2025KGMUSCSP1S1	.03	7471A/Hg		Soil	0.565g	50.00mL	ZBIBI k-balance-50
13	K2507459-009	2025KGMUSCSP1S2	.03	7471A/Hg		Soil	0.503g	50.00mL	ZBIBI k-balance-50
14	K2507459-010	2025KGMUSCSP1S3	.03	7471A/Hg		Soil	0.520g	50.00mL	ZBIBI k-balance-50
15	K2507459-011	2025KGMUSCSP2S1	.03	7471A/Hg		Soil	0.569g	50.00mL	ZBIBI k-balance-50
16	K2507459-012	2025KGMUSCSP2S2	.03	7471A/Hg		Soil	0.554g	50.00mL	ZBIBI k-balance-50
17	K2507459-013	2025KGMUSCSP2S3	.03	7471A/Hg		Soil	0.517g	50.00mL	ZBIBI k-balance-50
18	K2507459-014	2025KGMFSCS1	.03	7471A/Hg		Soil	0.546g	50.00mL	ZBIBI k-balance-50
19	K2507459-015	2025KGMLSHSP1S1	.03	7471A/Hg		Soil	0.581g	50.00mL	ZBIBI k-balance-50
20	K2507459-016	2025KGMLSHSP1S2	.03	7471A/Hg		Soil	0.571g	50.00mL	ZBIBI k-balance-50
21	K2507459-017	2025KGMLSHSP1S3	.03	7471A/Hg		Soil	0.530g	50.00mL	ZBIBI k-balance-50
22	K2507459-018	2025KGMUSHS1	.03	7471A/Hg		Soil	0.533g	50.00mL	ZBIBI k-balance-50

Spiking Solutions

Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 243166	Logbook Ref: HG4-27-N	Expires On: 09/01/2025
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KQ2513496-02 0.25mL KQ2513496-04 0.25mL

Preparation Materials

K-MET 100ml Centrifuge Tube LV24121002 (242799) K-MET HCl Hg 24G3162002 (241174) K-MET HNO3 Hg 23H1462001 (241175)

Preparation Information Benchsheet

Prep Run#: 461639
Team: Metals/MSOLADEY

Prep Workflow: HgDigS
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/1/25 14:31

Preparation Steps

Step: Weigh	Step: Digestion
Started: 8/1/25 14:31	Started: 8/1/25 14:31
Finished: 8/1/25 15:01	Finished: 8/1/25 15:01
By: MSOLADEY	By: MSOLADEY
Comments	Comments

Preparation Equipment

K-Block-Digester-14	Digestion	IR Thermometer ID: IR03		K-Block-Digester-14	Digestion	Temperature	95.5 deg C
K-Block-Digester-14	Digestion	Temperature Check Location	21	K-BlockDigester-15	Digestion	IR Thermometer ID: IR03	
K-BlockDigester-15	Digestion	Temperature	94.5 deg C	K-BlockDigester-15	Digestion	Temperature Check Location	21
K-U72662	Digestion			HG-39591307	Digestion		
Hg-43188965	Digestion						

Comments: Daily Cal Standard/ CCV Source: HG4-27-R

Reviewed By: KL Date: 8/4/25

Preparation Information Benchsheet

Prep Run#: 461639
 Team: Metals/ZBIBI
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Draft
 Prep Date/Time: 7/30/25 15:53 PM

#	Lab Code	Client ID	B#	√	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513496-03	MB			7471A / Hg	Solid						
2	KQ2513496-04	LCS			7471A / Hg	Solid						
3	K2507459-001	2025KGMUJCSPI1	.03		7471A / Hg	Soil						
4	KQ2513496-01	K2507459-001 DUP	.03		7471A / Hg	Solid						
5	KQ2513496-02	K2507459-001 MS	.03		7471A / Hg	Solid						
6	K2507459-002	2025KGMUJCSPI2	.03		7471A / Hg	Soil						
7	K2507459-003	2025KGMUJCSPI3	.03		7471A / Hg	Soil						
8	K2507459-004	2025KGMLJCS1	.03		7471A / Hg	Soil						
9	K2507459-005	2025KGMLJCS2	.03		7471A / Hg	Soil						
10	K2507459-006	2025KGMLJCS3	.03		7471A / Hg	Soil						
11	K2507459-007	2025KGMEFSCS2	.03		7471A / Hg	Soil						
12	K2507459-008	2025KGMUSCSP1S1	.03		7471A / Hg	Soil						
13	K2507459-009	2025KGMUSCSP1S2	.03		7471A / Hg	Soil						
14	K2507459-010	2025KGMUSCSP1S3	.03		7471A / Hg	Soil						
15	K2507459-011	2025KGMUSCSP2S1	.03		7471A / Hg	Soil						
16	K2507459-012	2025KGMUSCSP2S2	.03		7471A / Hg	Soil						
17	K2507459-013	2025KGMUSCSP2S3	.03		7471A / Hg	Soil						
18	K2507459-014	2025KGMEFSCS1	.03		7471A / Hg	Soil						
19	K2507459-015	2025KGMLSHSP1S1	.03		7471A / Hg	Soil						
20	K2507459-016	2025KGMLSHSP1S2	.03		7471A / Hg	Soil						
21	K2507459-017	2025KGMLSHSP1S3	.03		7471A / Hg	Soil						
22	K2507459-018	2025KGMUSHS1	.03		7471A / Hg	Soil						

K2507459-018

Comments: DD-14 TL: 21 T: 95.5 H64-27-R 2:31-3:01
DD-15 TL: 21 T: 94.5

Surrogate ID: _____ Spike ID: _____
 Witnessed By: _____
 Analyst: _____ Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461639

Container Lot No: LV24090105

Prep Due Date: Aug-01-2025

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-001	.03	Hg : 7471A/	0.576g		ZBIBI k-balance-50
2	K2507459-001 DUP KQ2513496-01	.03	Hg : 7471A/	0.578g		ZBIBI k-balance-50
3	K2507459-001 MS KQ2513496-02	.03	Hg : 7471A/	0.552g		ZBIBI k-balance-50
4	K2507459-002	.03	Hg : 7471A/	0.536g		ZBIBI k-balance-50
5	K2507459-003	.03	Hg : 7471A/	0.550g		ZBIBI k-balance-50
6	K2507459-004	.03	Hg : 7471A/	0.521g		ZBIBI k-balance-50
7	K2507459-005	.03	Hg : 7471A/	0.534g		ZBIBI k-balance-50
8	K2507459-006	.03	Hg : 7471A/	0.515g		ZBIBI k-balance-50
9	K2507459-007	.03	Hg : 7471A/	0.577g		ZBIBI k-balance-50
10	K2507459-008	.03	Hg : 7471A/	0.565g		ZBIBI k-balance-50
11	K2507459-009	.03	Hg : 7471A/	0.503g		ZBIBI k-balance-50
12	K2507459-010	.03	Hg : 7471A/	0.520g		ZBIBI k-balance-50
13	K2507459-011	.03	Hg : 7471A/	0.569g		ZBIBI k-balance-50
14	K2507459-012	.03	Hg : 7471A/	0.554g		ZBIBI k-balance-50
15	K2507459-013	.03	Hg : 7471A/	0.517g		ZBIBI k-balance-50
16	K2507459-014	.03	Hg : 7471A/	0.546g		ZBIBI k-balance-50
17	K2507459-015	.03	Hg : 7471A/	0.581g		ZBIBI k-balance-50
18	K2507459-016	.03	Hg : 7471A/	0.571g		ZBIBI k-balance-50
19	K2507459-017	.03	Hg : 7471A/	0.530g		ZBIBI k-balance-50
20	K2507459-018	.03	Hg : 7471A/	0.533g		ZBIBI k-balance-50

Relinquished By: <i>ZZS</i>	Date/Time: <i>7/30/25 16:00</i>	Received By: <i>mkj</i>	Date/Time: <i>8/1/25 1:40</i>
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Preparation Information Benchsheet

Prep Run#: 461640
 Team: Metals/MSOLADEY
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Prepped
 Prep Date/Time: 8/1/25 14:31

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2513497-03	MB		7471A/Hg		Solid	0.5g	50.00mL	
2	KQ2513497-04	LCS		7471A/Hg		Solid	0.5g	50.00mL	
3	K2507459-019	2025KGMUSHS2	.03	7471A/Hg		Soil	0.568g	50.00mL	ZBIBI k-balance-50
4	KQ2513497-01	K2507459-019 DUP	.03	7471A/Hg		Solid	0.528g	50.00mL	ZBIBI k-balance-50
5	KQ2513497-02	K2507459-019 MS	.03	7471A/Hg		Solid	0.516g	50.00mL	ZBIBI k-balance-50
6	K2507459-020	2025KGMUSHS3	.03	7471A/Hg		Soil	0.549g	50.00mL	ZBIBI k-balance-50
7	K2507459-021	2025KGMEFSCS3	.03	7471A/Hg		Soil	0.569g	50.00mL	ZBIBI k-balance-50
8	K2507459-022	2025KGMWFSCS1	.03	7471A/Hg		Soil	0.533g	50.00mL	ZBIBI k-balance-50
9	K2507459-023	2025KGMWFSCS2	.03	7471A/Hg		Soil	0.553g	50.00mL	ZBIBI k-balance-50
10	K2507459-024	2025KGMWFSCS3	.03	7471A/Hg		Soil	0.560g	50.00mL	ZBIBI k-balance-50
11	K2507459-025	2025KGMLSCS1	.03	7471A/Hg		Soil	0.534g	50.00mL	ZBIBI k-balance-50
12	K2507459-026	2025KGMLSCS2	.03	7471A/Hg		Soil	0.597g	50.00mL	ZBIBI k-balance-50
13	K2507459-027	2025KGMLSCS3	.03	7471A/Hg		Soil	0.510g	50.00mL	ZBIBI k-balance-50

Spiking Solutions

Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 243166	Logbook Ref: HG4-27-N	Expires On: 09/01/2025
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KQ2513497-02 0.25mL KQ2513497-04 0.25mL

Preparation Materials

K-MET 100ml Centrifuge Tube LV24121002 (242799) K-MET HCl Hg 24G3162002 (241174) K-MET HNO3 Hg 23H1462001 (241175)

Preparation Steps

Step: Weigh	Step: Digestion
Started: 8/1/25 14:31	Started: 8/1/25 14:31
Finished: 8/1/25 15:01	Finished: 8/1/25 15:01
By: MSOLADEY	By: MSOLADEY
Comments	Comments

Preparation Equipment

K-Block-Digester-14	Digestion	IR Thermometer ID: IR03	K-Block-Digester-14	Digestion	Temperature	95.5 deg C	
K-Block-Digester-14	Digestion	Temperature Check Location	21	K-BlockDigester-15	Digestion	IR Thermometer ID: IR03	
K-BlockDigester-15	Digestion	Temperature	94.5 deg C	K-BlockDigester-15	Digestion	Temperature Check Location	21
HG-39591307	Digestion			Hg-43188965	Digestion		
K-U72662	Digestion						

Preparation Information Benchsheet

Prep Run#: 461640
Team: Metals/MSOLADEY

Prep Workflow: HgDigS
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/1/25 14:31

Comments: Daily Cal Standard/ CCV Source: HG4-27-R

Reviewed By: KL Date: 8/4/25

Preparation Information Benchsheet

Prep Run#: 461640
 Team: Metals/ZBIBI
 Number of Copies to make: 1

Prep Workflow: HgDigS
 Prep Method: Method

Status: Draft
 Prep Date/Time: 7/30/25 15:54 PM

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2513497-03	MB			7471A / Hg	Solid						
2	KQ2513497-04	LCS			7471A / Hg	Solid						
3	K2507459-019	2025KGMUSHS2	.03		7471A / Hg	Soil						
4	KQ2513497-01	K2507459-019 DUP	.03		7471A / Hg	Solid						
5	KQ2513497-02	K2507459-019 MS	.03		7471A / Hg	Solid						
6	K2507459-020	2025KGMUSHS3	.03		7471A / Hg	Soil						
7	K2507459-021	2025KGMWFSCS3	.03		7471A / Hg	Soil						
8	K2507459-022	2025KGMWFSCS1	.03		7471A / Hg	Soil						
9	K2507459-023	2025KGMWFSCS2	.03		7471A / Hg	Soil						
10	K2507459-024	2025KGMWFSCS3	.03		7471A / Hg	Soil						
11	K2507459-025	2025KGMFLSCS1	.03		7471A / Hg	Soil						
12	K2507459-026	2025KGMFLSCS2	.03		7471A / Hg	Soil						
13	K2507459-027	2025KGMFLSCS3	.03		7471A / Hg	Soil						

KM207 H64-27-J

Comments: *BP-14 TL: 21 T: 99.9*
BP-15 TL: 21 T: 99.9

H64-27-R

2:31-7:01

Surrogate ID: _____

Spike ID: _____

Witnessed By: _____

Analyst: _____

Assisted By: _____

Pre-Prep Information Benchsheet

Prep Run #: 461640

Container Lot No: LV24090105

Prep Due Date:

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2507459-019	.03	Hg : 7471A/	0.568g		ZBIBI k-balance-50
2	K2507459-019 DUP KQ2513497-01	.03	Hg : 7471A/	0.528g		ZBIBI k-balance-50
3	K2507459-019 MS KQ2513497-02	.03	Hg : 7471A/	0.516g		ZBIBI k-balance-50
4	K2507459-020	.03	Hg : 7471A/	0.549g		ZBIBI k-balance-50
5	K2507459-021	.03	Hg : 7471A/	0.569g		ZBIBI k-balance-50
6	K2507459-022	.03	Hg : 7471A/	0.533g		ZBIBI k-balance-50
7	K2507459-023	.03	Hg : 7471A/	0.553g		ZBIBI k-balance-50
8	K2507459-024	.03	Hg : 7471A/	0.560g		ZBIBI k-balance-50
9	K2507459-025	.03	Hg : 7471A/	0.534g		ZBIBI k-balance-50
10	K2507459-026	.03	Hg : 7471A/	0.597g		ZBIBI k-balance-50
11	K2507459-027	.03	Hg : 7471A/	0.510g		ZBIBI k-balance-50

Relinquished By: <i>22B</i>	Date/Time: <i>7/30/25 16:00</i>	Received By: <i>[Signature]</i>	Date/Time: <i>8/1/25 1:40</i>
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