



ALS Environmental, Kelso

November 7th, 2023

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Introduction



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ALS Kelso, WA – Brief History



- ALS Kelso
1317 S 13th st
Kelso, WA 98626
360-577-7222



- Established in 1986, As Columbia Analytical Services
- Purchased by ALS in 2012
- Australian Laboratory Services, 1976 began analytical testing in Brisbane Australia.



400+
Locations

12,000+
Staff

65+
Countries



- Full service analytical laboratory – 90+ employees
 - Including dedicated Project Managers
- Test samples locally and across the United States.
- Hold certifications across the US including ORELAP & WADOE for a long list of analytical tests & methods.
- Analyze all PFAS testing in Kelso – technical expertise

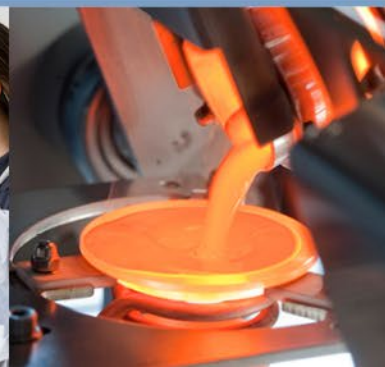


Field sampling, sample containers/preservation, documentation, and shipping logistics.

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Summary



- We will be discussing collection practices for general sample collection.
- Proper documentation of labeling sample bottles.
- Shipping samples to the lab.

Lab provided bottle type and preservatives



- Prior sampling, speak with a laboratory project manager to discuss samples you will be collecting to ensure proper materials are used for sample collection. Project managers are responsible for getting the orders placed for the specific needs for each clients sampling events.
- All analyses require a specific type of bottle whether preserved or unpreserved.
- Not all analyses can be performed on samples if they arrive in bottles with incorrect preservative.
- ALS Kelso does provide containers for sampling at no cost to the client if the samples will be analyzed at our facility.

Waters

- ICP (200.7/6010), ICP-MS (200.8/6020), and 7470 Hg.
 - Total and Dissolved metals (field filtered):
 - 125mL HNO₃ Plastic bottle
- Low level Hg EPA 1631
 - Total and Dissolved metals (field filtered):
 - 125mL Fluoropolymer preserved with HCL.
- Inorganic As EPA 1632
 - Total and Dissolved metals (field filtered):
 - 250mL plastic bottle cleaned with HCL and preserved with HCL.

Soils

- All soil samples do not require chemical preservation. Only need to be cooled after collection.

Different Types of Bottles General chemistry/Microbio overview



Waters

- Majority of general chemistry analyses require unpreserved bottles and multiple tests can be used from the same bottle: anions, alkalinity, TSS, TDS.
- Sulfuric acid is used for select analyses: Nitrate + Nitrite, phenolics, phosphorus, ammonia, and TKN.
- Sodium hydroxide preservation is used for all Cyanide analyses.
- Microbiology – requires a 100mL cup preserved with sodium thiosulfate.

Soils

- All soil samples do not require chemical preservation. Only need to be cooled after collection.

Waters

- Majority of organic analyses are unpreserved with only a select analyses that contain preservative.
 - Volatile analyses:
 - Gasoline range organics and VOCs.
 - 3x VOA vial preserved with HCL
 - PFAS 537.1
 - 2x Trizma preserved 250mL Polypropylene
 - PFAS 533
 - 2x Ammonium Acetate preserved 250mL Polypropylene

Soils

- All soil samples do not require chemical preservation. Only need to be cooled after collection.

Before going into the Field



- Check your supplies:
 - Once bottle kits are received from the lab, please open the bottle kits to verify for the following information:
 - Correct bottle ware – each bottle order sent out has information about the type of bottle that is received.
 - Double check bottle quantities.
 - Chain of custody in the cooler.
 - Custody seals.
 - Other miscellaneous items: Trip blanks for VOCs, DI water for field duplicates, field blank kits PFAS, ETC.

General sampling procedures



- Wash hands thoroughly followed by putting on nitrile or latex gloves (PFAS sampling and EPA 1669 have different requirements).
- For grab samples pull sample from water source carefully to avoid spilling any preservative (if the bottle is preserved).
 - Place bottle into either water source tilted up to let water slowly flow in.
- For subsurface water: suction pump or manual pump.

General sampling procedures



- Composite samples: If collecting composite samples collect sample into either individual samples and mix samples into equal parts. Composites can be performed at the lab.
- Soil samples: Clean stainless-steel (non-metal analyses) or plastic scoop scupula to transfer sample into the bottle.
- After collecting samples place them immediately on ice to begin chilling the samples.

Special sampling instructions EPA 1669 for trace metals analysis



- Two-person sampling technique where one person is designated for touching sample bottle and the other person prepares all sampling materials.
 - Clean hands:
 - » Must wear clean non-talc gloves and only touch the sample bottle.
 - » Only person to collect the sample.
 - Dirty hands
 - » Responsible for opening double bagged sample package for clean hands to grab.
 - » Only person to touch bag and sampling media excluding the bottles.

Special sampling instructions PFAS



Non- Potable Waters

- Non-potable Water Grab samples:
 - Collect 4x aliquots per sample into 2x 250mL and 1x 125mL HDPE bottles up to the shoulder.
 - All 4 bottles are required for 1633.
 - 2x 250mL bottles are required for 537Mod.
- Non-potable Water Composite samples:
 - HDPE tubing must be used.
 - If peristaltic pump is used, only use silicone rubber tubing.
 - Tubing must be rinsed with methanol and reagent water prior to use.

Soils

- Soil samples require 1x 125mL HDPE Bottle with liner-less HDPE or polypropylene cap.
- Using cleaned stainless steel scoopula, scoop up solids and transfer to the bottle.
 - Do not use non-stick or Teflon coated scoopula.
- Only fill $\frac{3}{4}$ of the container full (1633 requirement).
- Place the sample on ice.

Labeling sample bottles and filling Chain of Custody



- Make sure bottles collection date and time match the COC.
- One sample with multiple tests only needs to be written on the COC once but checking the analysis boxes required for the one sample.
- Sampler signing and relinquishing the samples.
- Purchase order.
- All other pertinent information: metals listed, MS/MSD, composite instructions, ETC.

Properly filled out Chain of Custody Form



ALS Environmental
 1317 South 13th Ave
 Kelso, WA 98626
 (Tel) 360.577.7222
 (Fax) 360.636.1068

Chain of Custody Form

Page _____ of _____

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Example project			A	Metals 6020B										
Work Order		Project Number	10/20/2023			B	Hg 7471										
Company Name	ALS Environmental	Bill To Company	ALS Environmental			C	8260C VOC BTEX only										
Send Report To	Luke Rahn	Invoice Attn.				D	8270D SVOC										
Address	1317 S 13th Avenue	Address				E											
						F											
City/State/Zip	Kelso, WA, 98626	City/State/Zip				G											
Phone	360-501-3260	Phone				H											
Fax		Fax				I											
e-Mail Address	Luke.Rahn@alsglobal.com					J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Sample One	10/20/2023	12:00 AM	Water		6	X	X	X	X							
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Sampler(s): Please Print & Sign Luke Rahn		Shipment Method:		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 3 Wk Days <input checked="" type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				<input checked="" type="checkbox"/> Other _____		Results Due Date:							
Relinquished by: Luke Rahn		Date: 10/20/2023	Time: 1600'	Received by:		Date:	Time:	Notes: Metals: As, Ba, Cd, Cr, Pb, Se, Ag									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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Improperly filled out Chain of Custody Form



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Work Order		Project Number		B	Hg 7471												
Company Name		Bill To Company		C	8260C VOC												
Send Report To		Invoice Attn.		D	8270D SVOC												
Address		Address		E													
City/State/Zip		City/State/Zip		F													
Phone		Phone		G													
Fax		Fax		H													
e-Mail Address				I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Sample One	10/20/2023	1300'	Water		6	X										
2	Sample One	10/20/2023	1305'	Water				X									
3	Sample One	10/20/2023	1310'	Water					X								
4	Sample One	10/20/2023	1315'	Water						X							
5																	
6																	
7																	
8																	
9																	
10																	
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Other: _____				Results Due Date:					
				<input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:											
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):											<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____			
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- When shipping samples it is best to ship Monday – Thursday overnight.
 - While ALS Kelso does have staff to receive samples on Saturday, if the cooler is delayed the likelihood of samples arriving outside of method specified temperature range is much higher than a weekday.
- Packing samples with ample amount of cooling agent.
 - Gel packs are a convenient source for a cooling agent, however, most instances where samples are out of temp due to shipping its caused by them thawing in overnight transit.
 - Wet Ice tends to keep samples cooler longer and often is sufficient in overnight transit. In some instances, if samples are pack with enough ice, can keep samples below 6C for up to 48 hours.



QUESTIONS?

Contact Information



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Luke Rahn – Project Manager

Email: Luke.Rahn@alsglobal.com

Phone: 360-501-3260

References



- EPA 1669: [Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels](#)
- Procedures for collecting WW samples: [Region 4 \(epa.gov\)](#)