Clean Water

Healthy Families

Learn about how Cook Inletkeeper can help you ensure clean drinking water for you and your family.

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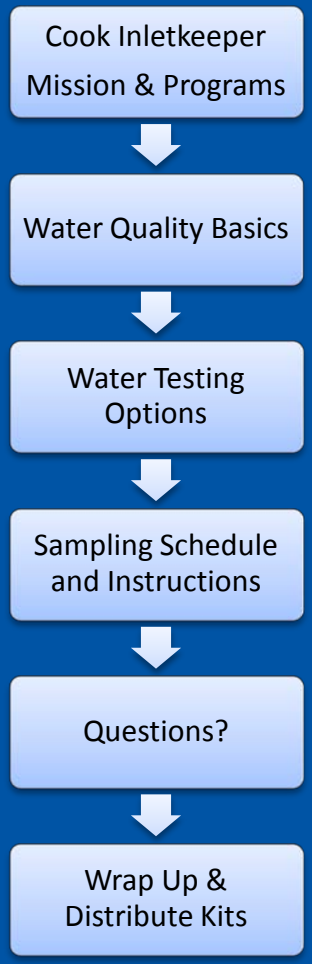
Presentation Outline



Cook Inletkeeper Mission and Programs

CLEAN WATER

- Safe Drinking Water
- Electronics Recycling
- Clean Boating & Harbors
- Citizen Monitoring

HEALTHY HABITAT

- Stream Temperature Data Collection
- Habitat Mapping
- Conservation Partnerships

CLEAN ENERGY

- Oil and Gas Drilling and Transportation Issues
- Mine Development
- Energy Efficiency
- Advocacy

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Safe Drinking Water Program Goals

Education	Educate Alaskans about the potential contaminants and health risks associated with some private drinking water sources.
Information	Provide information and resources regarding private drinking water testing.
Technical Assistance	Assist private well owners with taking samples and interpreting test results, including finding local and state resources for treatment of contaminated water.
Stewardship	Encourage Alaskans to take responsibility for long-term maintenance and testing of private drinking water sources, and protecting those sources through wise land use.

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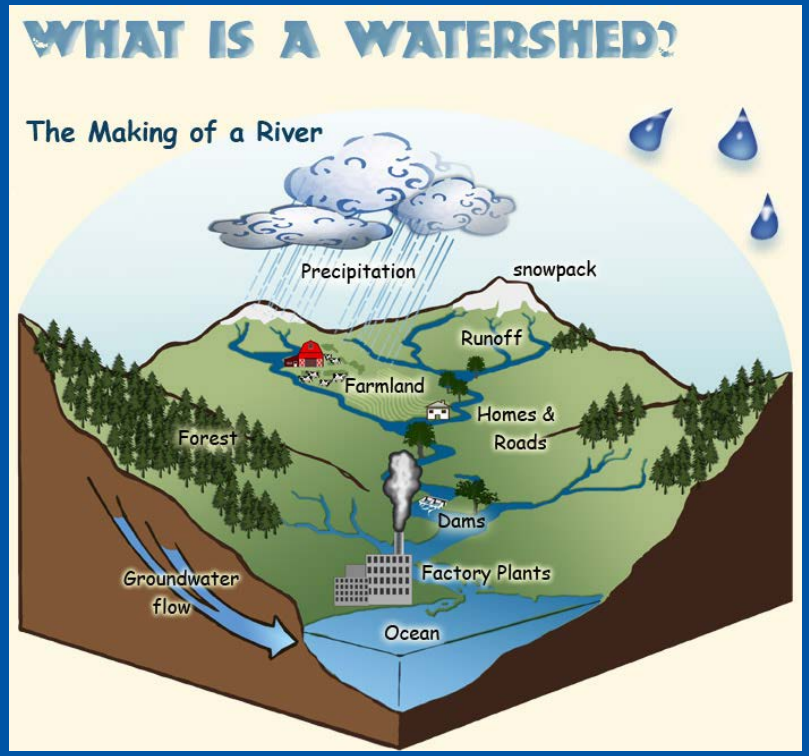
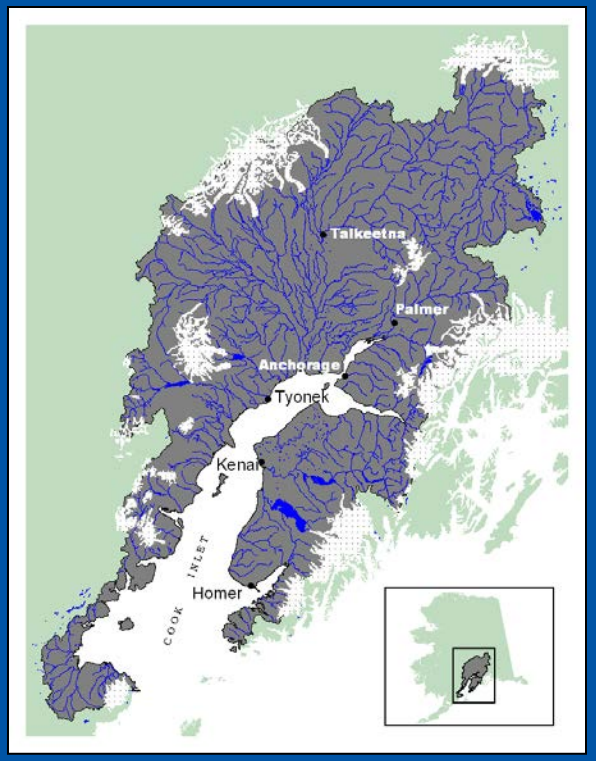
Water Quality Basics



A watershed is the area of land where all of the water that is under it or drains off of it goes into the same place.



The Cook Inlet watershed encompasses over 47,000 square miles of land!

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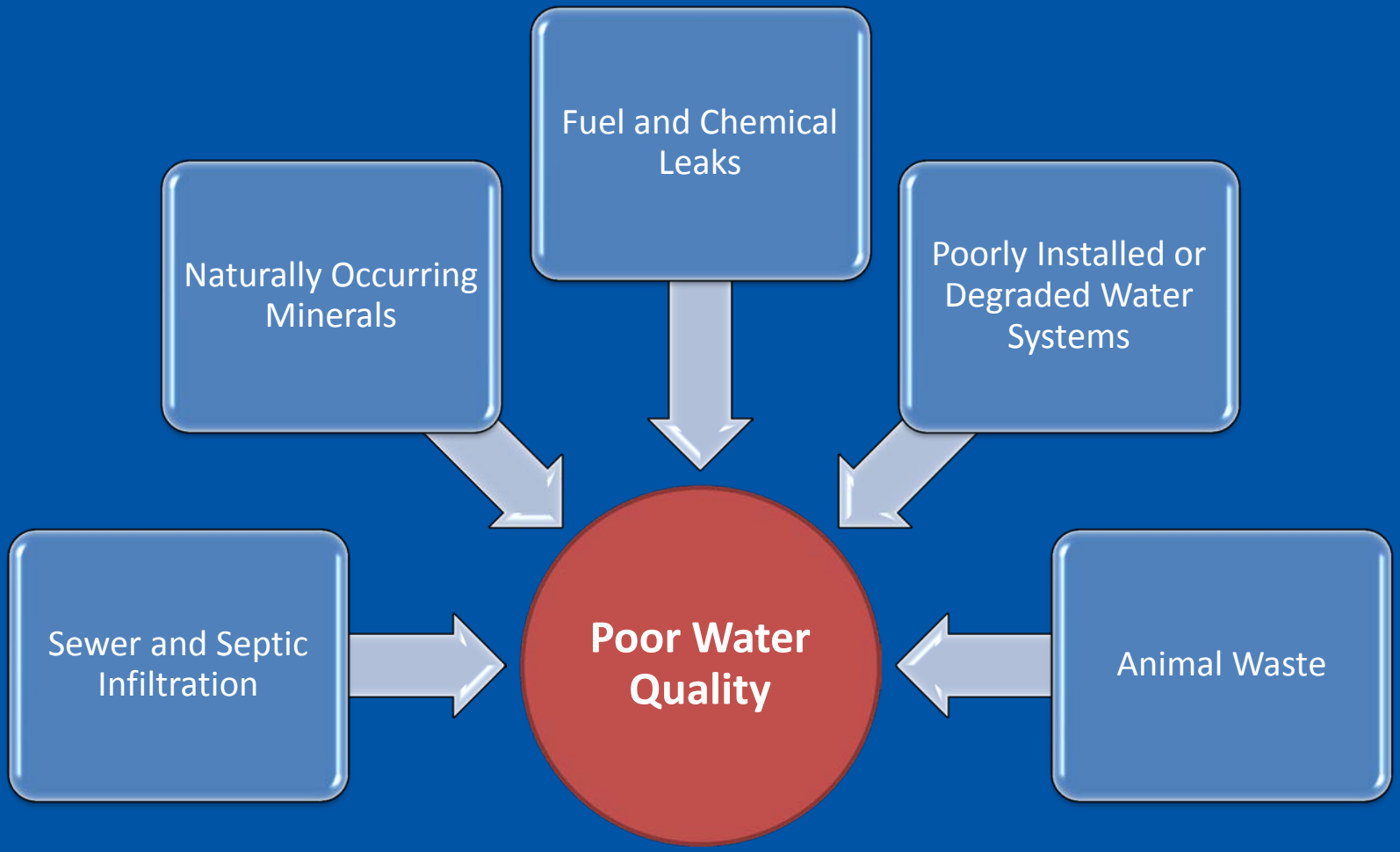
Fuel and Chemical Leaks
Naturally Occurring Minerals
Poorly Installed or Degraded Water Systems
Sewer and Septic Infiltration
Poor Water Quality
Animal Waste

Common Water Contaminants & Health/Aesthetic Effects

Fecal bacteria, such as *E. coli*, can cause severe gastrointestinal illnesses. This can be life threatening for infants and those with compromised immune systems.

Bacteria

High nitrate concentrations can be fatal to infants, interfering with their blood's ability to carry oxygen. Long term exposure to high nitrate levels can lead to hemorrhaging of the spleen.

Nitrates

Skin damage, diabetes, increased cancer risk, and circulatory system problems are potential affects of chronic arsenic poisoning.

Arsenic

Vomiting, diarrhea, cramps, and nausea can be the result of over consumption of copper. Long term exposure can also cause liver and kidney damage to infants.

Copper

High levels for infants and children can lead to physical and mental developmental delays. Adults exposed to high levels of lead may experience kidney problems and high blood pressure.

Lead

High levels of sodium may contribute to the risk of high blood pressure, especially if you are overweight and/or have a family history of hypertension.

Sodium

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Common Water Contaminants & Health/Aesthetic Effects *(continued)*

pH

While not a health risk in itself, acidic water can cause corrosivity, leaching metals from pipes and fixtures. Alkali water can cause poor water taste and buildup in plumbing.

Iron & Manganese

These chemicals can affect the flavor of food and water. Laundry and appliances can become stained red or black, and iron and manganese support the growth of bacteria that can clog pumps, pipes and valves.

Hardness

Mineral buildup on pipes and plumbing fixtures, bitter coffee, deposits on dishes, lower water pressure, lower appliance efficiency.

Rotten Egg Smell

Caused by hydrogen sulfide gas, this can be produced by certain "sulfur bacteria" in the groundwater, well, or the water distribution system. It can also be produced by sulfur bacteria or chemical reactions inside water heaters.

Total Dissolved Solids

Scale buildup in pipes, reduced efficiency of hot water heaters and water filters, and a bitter or salty taste are potential effects from high TDS.

Health Concern

Aesthetic & System Efficiency Concern

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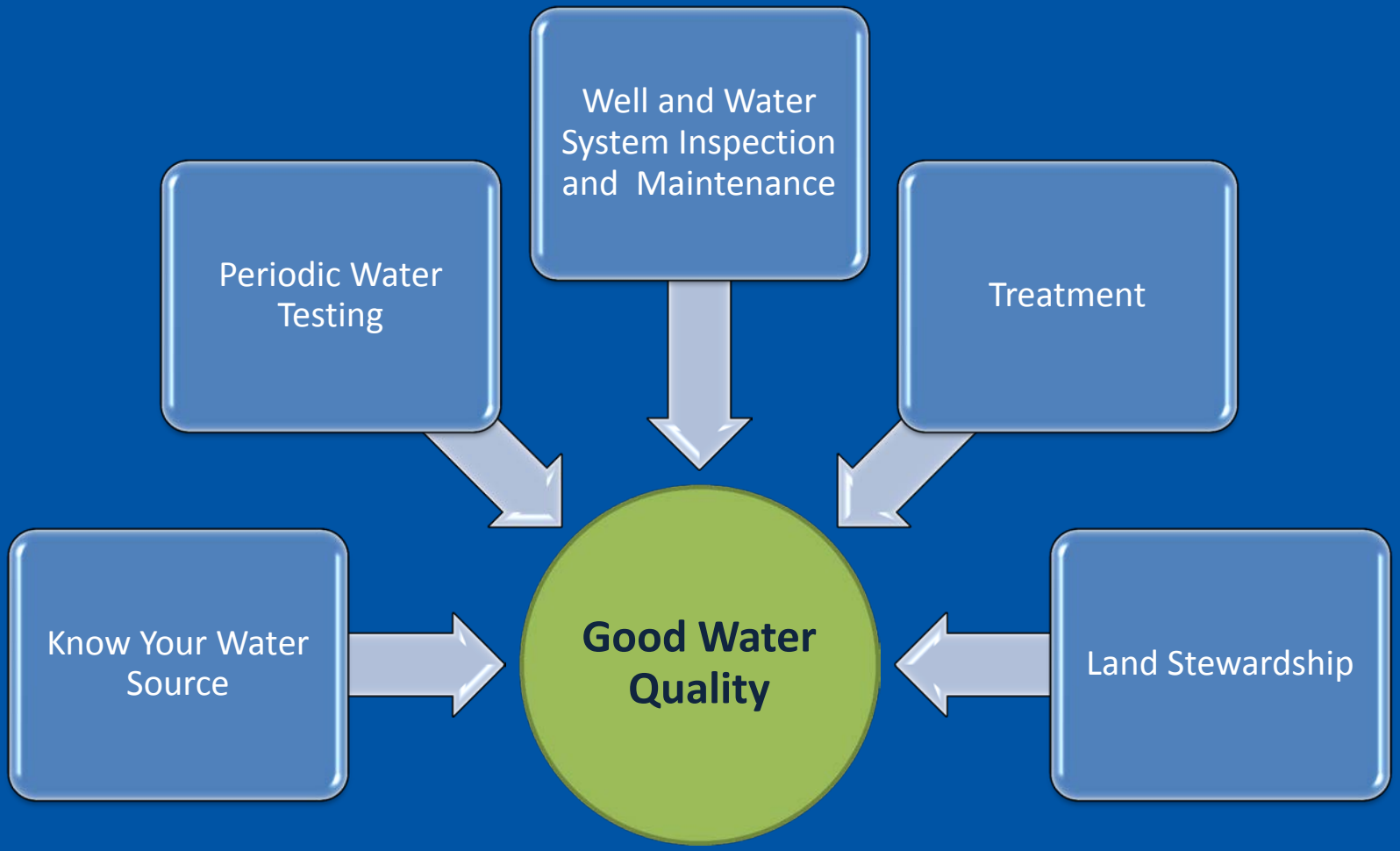
Well and Water System Inspection and Maintenance
Periodic Water Testing
Treatment
Know Your Water Source
Good Water Quality
Land Stewardship

Water Testing

Water Testing Options

$279

Well Safe III: All of Well Safe I and II, plus :

- Sodium
- Lead
- Copper

$232

Well Safe II: All of Well Safe I, plus:

- Hardness
- pH
- Iron & Manganese
- Corrosivity

$140

Well Safe I

- Bacteria ($50)
- Nitrates
- Arsenic

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Sampling Schedule

Take samples between 4:00am and 9:00 am. Keep samples COOL, but not frozen until transport.

Bring samples, paperwork, and payment to Analytica's lab in Anchorage or Wasilla, or send with a courier.

Receive results in in 10 business days. Report will come directly to you from the lab.

Forward results to Cook Inletkeeper (optional, see Data Use Agreement for more information).

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Sampling Instructions: Collecting Samples

Lead and Copper:

- Run water for 3- 4 minutes the night before taking the sample.
- DON'T USE THE WATER FOR 6-8 HOURS!
- Collect the 'first draw' of water in the morning. Don't let the water run first.
- Fill bottle with cold water, cap bottle, fill out information on label.

Bacteria:

- Wash your hands! Bacteria is everywhere!
- Remove screen, disinfect faucet.
- Run water for 2 minutes.
- Fill bottle with cold water, cap bottle, fill out information on label.
- Take care not to contaminate sample by touching inside the lid or putting the lid on the counter or sink.

All other sample bottles:

- No special instructions, just fill 'em up!

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Sampling Instructions: Collecting Samples

Well Safe I and II:

- First, collect the bacteria sample.
- Fill the rest of the bottles.

Well Safe III:

- Let water sit in the pipes 6-8 hours before sampling.
- First, collect the Lead and Copper sample.
- Second, collect the bacteria sample.
- Fill the rest of the bottles.

Sampling Instructions: Forms & Payment

- Chain of Custody – MORE DETAIL NEXT!!
  - •Use pen only.
- Lead and Copper Sample Worksheet – MORE DETAIL NEXT!!
  - •Only for Well Safe III
- Payment
  - •Check only, Payable to Analytica.
- Private Water Source Information
  - •Optional
- Data Use Agreement
  - •Optional
- Program Evaluation
  - •Optional

Sampling Instructions: Chain of Custody

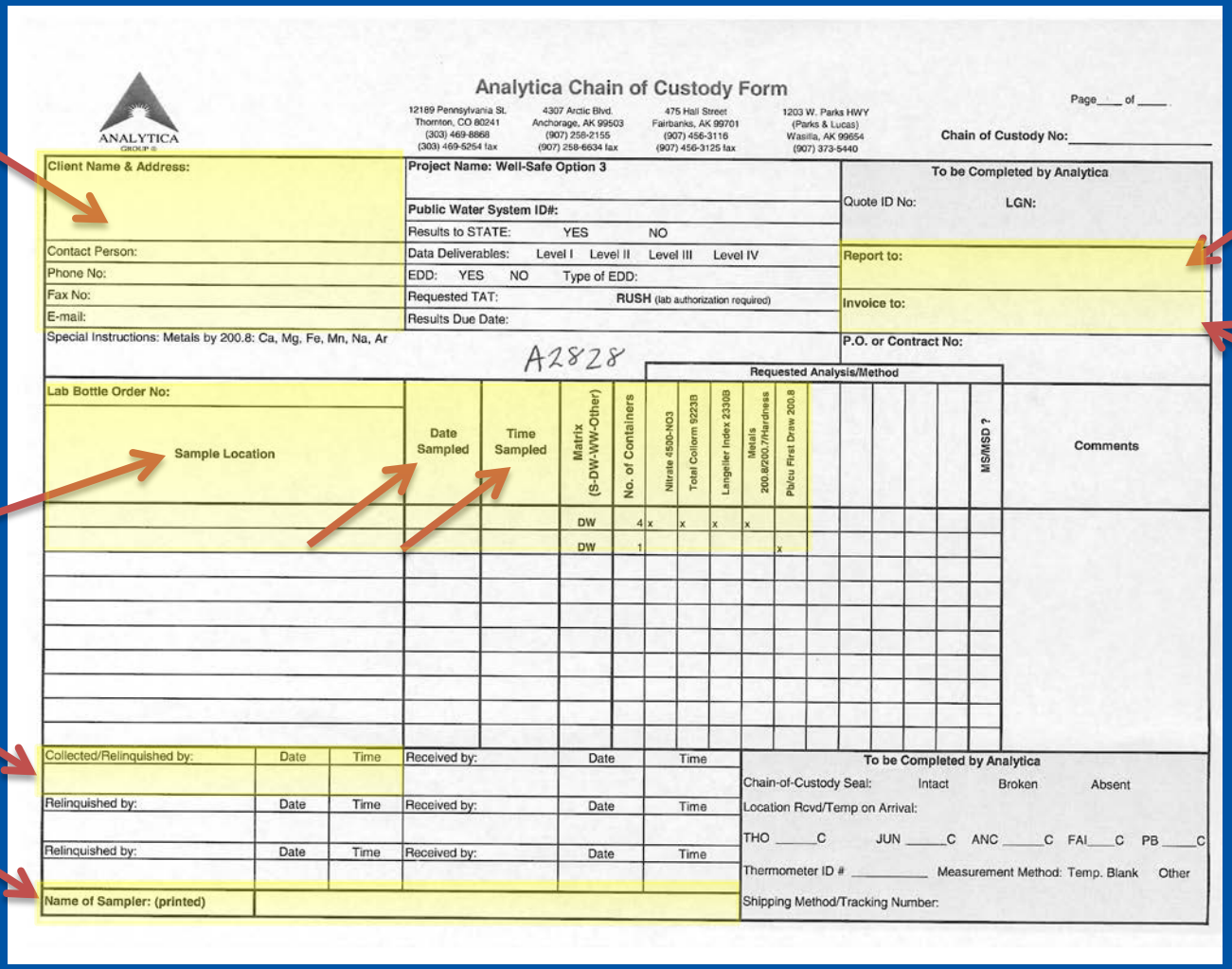
Your Contact Info

Your Name

Your Name

Sign, date, & time when dropping off samples

Your Name



Analytica Chain of Custody Form

ANALYTICA GROUP

12189 Pennsylvania St. Thornton, CO 80241 (303) 469-8868 (303) 469-5254 fax

4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2155 (907) 258-6634 fax

475 Hall Street Fairbanks, AK 99701 (907) 456-3116 (907) 456-3125 fax

1203 W. Parks HWY (Parks & Lucas) Wasilla, AK 99654 (907) 373-5440

Page___ of ___

Chain of Custody No:_____

Client Name & Address:

Project Name: Well-Safe Option 3

Public Water System ID#:

Results to STATE: YES NO

Contact Person:

Data Deliverables: Level I Level II Level III Level IV

Phone No:

EDD: YES NO Type of EDD:

Fax No:

Requested TAT: RUSH (lab authorization required)

E-mail:

Results Due Date:

Special Instructions: Metals by 200.8: Ca, Mg, Fe, Mn, Na, Ar

A2828

To be Completed by Analytica

Quote ID No: LGN:

Report to:

Invoice to:

P.O. or Contract No:

Requested Analysis/Method

Lab Bottle Order No. / Sample Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	Nitrate 4500-NO3	Total Coliform 9223B	Langelier Index 2330B	Metals 200.8/200.7/Hardness	Pb/Cu First Draw 200.8	MS/MSD ?	Comments
			DW	4	x	x	x	x			
			DW	1					x		

Collected/Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Name of Sampler: (printed)					

To be Completed by Analytica

Chain-of-Custody Seal: Intact Broken Absent

Location Rcvd/Temp on Arrival:

THO _____C JUN _____C ANC _____C FAI____C PB _____C

Thermometer ID # _____ Measurement Method: Temp. Blank Other

Shipping Method/Tracking Number:

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Sampling Instructions: Lead and Copper Form

ANALYTICA GROUP
Environmental Laboratories

Corporate Headquarters
12189 Pennsylvania Street
Thornton, CO 80241
(303) 469-8868
(303) 469-5254 fax

Anchorage
4307 Arctic Boulevard
Anchorage, Alaska 99503
(907) 258-2155
(907) 258-6634 fax

Fairbanks
475 Hall Street
Fairbanks, Alaska 99701
(907) 456-3116
(907) 456-3125 fax

Juneau
5438 Shaune Drive
Juneau, Alaska 99801
(907) 780-6668
(907) 780-6670 fax

www.analyticagroup.com

LEAD & COPPER WATER SAMPLING INSTRUCTIONS

! TO TAKE THIS SAMPLE YOUR WATER MUST BE OFF FOR A PERIOD OF 6 HOURS, BUT NO LONGER THAN 8 HOURS.

! IF YOU HAVE COLLECTED THE SAMPLE BEFORE OR AFTER THIS TIME REQUIREMENT, ANALYTICA CANNOT ACCEPT YOUR SAMPLE. INCORRECT SAMPLING MAY CAUSE RE-SAMPLING AT CLIENTS EXPENSE.

1. A one (1) Liter Plastic sample bottle should be obtained from Analytica.
2. Select the location from which you are going to take your water sample. Kitchen Sink or Bathroom Sink is recommended.
3. Remove any screens from Faucet before taking the sample.
4. Place bottle directly under Tap- turn water on. Fill to shoulder of bottle and replace lid.
5. Complete all information in the box below and return to the laboratory immediately.

TO BE COMPLETED BY RESIDENT OR SAMPLER

First Name _____ Last Name_____

WATER WAS LAST USED ON: TIME_____A.M OR P.M. DATE_____

Date and Time sample was taken: Time_____A.M OR P.M. DATE_____

Sample was taken from:
Please Circle: Kitchen Sink, Other, Please List if Other_____

Water sat in pipes unused for: _____Hours. WATER MUST BE OFF FOR 6 (SIX) HOURS BUT NO MORE THAN (EIGHT) HOURS. ANALYTICA WILL NOT ACCEPT YOUR WATER SAMPLE IF WATER WAS OFF LONGER THAN 8 (EIGHT) HOURS.

I have read the above directions and have taken a tap sample in accordance with these directions.

Signed:_____DATE:_____

Please Print Name: _____

Analytica...Everything Else is Just Testing"

TO BE COMPLETED BY RESIDENT OR SAMPLER

First Name _____ Last Name_____

WATER WAS LAST USED ON: TIME_____A.M OR P.M. DATE_____

Date and Time sample was taken: Time_____A.M OR P.M. DATE_____

Sample was taken from:
Please Circle: Kitchen Sink, Other, Please List if Other_____

Water sat in pipes unused for: _____Hours. WATER MUST BE OFF FOR 6 (SIX) HOURS BUT NO MORE THAN (EIGHT) HOURS. ANALYTICA WILL NOT ACCEPT YOUR WATER SAMPLE IF WATER WAS OFF LONGER THAN 8 (EIGHT) HOURS.

I have read the above directions and have taken a tap sample in accordance with these directions.

Signed:_____DATE:_____

Please Print Name: _____

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Sampling Instructions - Review

- Let household/family members know what is going on.
- Fill out paperwork and bottles completely.
- Pay attention to the order to take the samples.
- Don’t rinse bottles before filling. The white powder is a preservative.
- Don’t overfill the bottles, but fill them to the ‘neck’.
- Use caution to prevent contamination.
- Keep samples cool, but not frozen.

Water Systems Council	• http://www.watersystemscouncil.org/
EPA	• **Safe Drinking Water Hotline 1-800-426-4791** • http://water.epa.gov/drink/index.cfm • http://www.epa.gov/privatewells/pdfs/household_wells.pdf
Alaska Department of Environmental Conservation	• http://www.dec.state.ak.us/EH/dw/index.htm
UAF Cooperative Extension Service	• http://www.uaf.edu/ces/nrcd/water/
National Sanitation Foundation	• www.nsf.org
Cook Inletkeeper	• http://inletkeeper.org/SAFEDRINKINGWATER

Cook Inletkeeper
3734 Ben Walters Lane, Homer, AK 99603
907.235.4068
www.inletkeeper.org/safedrinkingwater

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Protecting Alaska's Cook Inlet watershed and the life it sustains.

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