LEAD IN WATER TEST REPORT
Gaston High School
300 Park Street
Gaston, Oregon 97119

EIS Job No. 2021011. Gaston High School Building LIW

Prepared For:

C/O Bryan VanDyke, Facilities Director
Gaston SD 511J
300 Park street
Gaston, Oregon 97119

Prepared By:

Environmental Inspection Services
11981 Fargo Road
Aurora, Oregon 97002
cell # (503) 680-6398
EMAIL: charles_a_spear@yahoo.com

Charles A Spear

Charles A. Spear, Partner
Environmental Professional

April 29, 2021

ENVIRONMENTAL INSPECTION SERVICES

April 29, 2021
EIS Job No.2021011.Gaston High School LIW report

C/O Bryan VanDyke, Facilities Director
Gaston SD 511J
300 Park street
Gaston, Oregon 97119

Reference: Lead in water testing of the Gaston High School Building located at 300 Park Street in Gaston, Oregon 97119

Dear Mr. Bryan VanDyke;

Environmental Inspection Services conducted a comprehensive lead in water test episode at the subject Gaston High School Building located at 300 Park Street in Gaston, Oregon on Wednesday, April 14, 2021. A total of tenty-seven (27) discreet water samples (No.s 65-91) were collected from the points of consumption throughout the subject Gaston High School Building to include cold water faucets positioned throughout the entire building. **The lead action level of ten (10) percent tap water samples collected was not exceeded during this April, 2021 lead in water testing episode according requirements stated in OAR 333-061-0030. One (1)sample analytical test results of the twenty-seven (27)total samples were at or exceeded the EPA Action Limit of 15 parts per billion (ppb).**

The EPA Maximum Contaminant Limit (MCL) for lead in Public drinking water Systems is 15 parts per billion (ppb). The EPA action limit of 15 parts per billion (ppb) was utilized as the action limit for the purposes of this water sampling and testing episode. Plastic and sterile 250 ml. bottles were utilized for the drinking water sample collection.

All water samples were shipped to an ORELAP certified laboratory known as Alexin Analytical Laboratory located at 13035 S.W. Pacific Highway in Tigard, Oregon. The samples were received by Alexin on Friday, April 16, 2021; reported to EIS on Monday, April 26, 2021; and issued laboratory work order No. 1106003 (Alexin accreditation No. OR100013). The sample concentrations varied between None detected (ND) to one (1) sample analytical test result of 34 parts per billion (ppb).

Bus: 503.678.5063 | Cell: 503.680.6398 11981 Fargo Road, NE, Aurora, OR 97002 www.environmentalinspectionservices.net

The actual location of the tested fountains and faucets are noted in the attached floor plan. The analytical test results are summarized in this letter. The sample analytical test results at or exceeding the EPA Action Limit of 15 parts per billion (ppb) are summarized as follows;

SAMPLE NO.	SAMPLE LOCATION	ANALYTICAL TEST RESULT (LEAD)
11950200-082BF21A	Girls locker room	34 ppb

A unique sample location code was assigned for each drinking water outlet sample. The attached alpha numeric sequence code was assigned for each sample.
Example - The sampling code for sample No. 82 is as follows:
11940100-046DW21A

First eight digits - School district and building code
No. 082 - Sample number 82
BF - bathroom faucet
21A - year 21 and first round of testing - A

The above listed fixture at or exceeding 15 ppb must be immediately removed from service. This can be accomplished by either shutting off the water to the fixture, and/or bagging the fixture. The elevated fixtures may not be returned to service until it has been remediated and retested. The resultant fixture sample must show a lead level to be below the EPA action limit of 15 ppb.

In the opinion of EIS focused additional lead in water flushing re-testing of this single(1) area of the school is required at this time. In the opinion of EIS, this elevated faucet fixture should be replaced with certified non-lead faucet fixture. and plumbing. Water should not be utilized for consumption from this "elevated" fixture until the fixture is listed and replaced and certified lead free. No other lead in water concentration considerations were noted for the remaining twenty-six (26) samples collected from throughout the Gaston High School building.

Thank you for this opportunity to be of service. If there are questions concerning the lead in water analytical test results contact the Gaston School district at 1-503-985-0210.

Respectfully,
Charles A Spear
Charles A. Spear, Partner
Environmental Inspection Services

Alexin Analytical LABORATORIES, INC.
Professional Laboratory Services
13035 SW Pacific Hwy
Tigard, OR 97223
Tel.: (503) 639-9311 Fax: (503) 684-1588

ANALYSIS REPORT

Reported: 04/26/2021
Received: 04/16/2021
Sampled By: Charles Spear
Work Order: 1106004

CLIENT
Environmental Inspection Services
Attn: Charles Spear
11981 Fargo Rd
Aurora OR, 97002
Phone: (503) 680-6398

Project: High
Project # : High School
Sample Type : Grab

Sampling Location: Gaston High School, 300 Park St, Gaston OR 97119

Lab Number

	Code	Method	Result	Units	MRL	EPA MCL*	Analysis Date/ Time
1106004-11	**Sample Name:** 11950200 - 075 CF 21A **Sampled:** 4/14/21 11:00 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	1	ppb	1	15 ppb	04/23/21 14:36
1106004-12	**Sample Name:** 11950200 - 076 CF 21A **Sampled:** 4/14/21 11:00 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36
1106004-13	**Sample Name:** 11950200 - 077 CF 21A **Sampled:** 4/14/21 11:01 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36
1106004-14	**Sample Name:** 11950200 - 078 CF 21A **Sampled:** 4/14/21 11:01 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	14	ppb	1	15 ppb	04/23/21 14:36
1106004-15	**Sample Name:** 11950200 - 079 CF 21A **Sampled:** 4/14/21 11:02 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36
1106004-16	**Sample Name:** 11950200 - 080 DW 21A **Sampled:** 4/14/21 11:03 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36
1106004-17	**Sample Name:** 11950200 - 081 DW 21A **Sampled:** 4/14/21 11:03 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36
1106004-18	**Sample Name:** 11950200 - 082 BF 21A **Sampled:** 4/14/21 11:03 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	**34**	ppb	2	15 ppb	04/23/21 14:36 **MCLE**
1106004-19	**Sample Name:** 11950200 - 083 BF 21A **Sampled:** 4/14/21 11:03 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	12	ppb	1	15 ppb	04/23/21 14:36
1106004-20	**Sample Name:** 11950200 - 084 DW 21A **Sampled:** 4/14/21 11:04 **Sample Composition:** Raw Single						**Matrix:** Drinking Water
†*Lead*	1030	EPA 200.9	ND	ppb	1	15 ppb	04/23/21 14:36

Alexin Analytical LABORATORIES, INC. Professional Laboratory Services

Chain of Custody Record

Laboratory Job Number: _____

13035 SW Pacific Hwy Tigard, OR 97223 ph: 503.639.9311 fax: 503.684.1588 email:mail@alexinlabs.com

Client Contact Information	Results Reporting Information	Invoicing Information
Company/Client Name: EIS	Project Manager: Charles Spear	Accounts Payable Contact:
Address: 11981 Fargo Rd	Mailing Address:	Mailing Address:
City/State/Zip: Aurora, OR 97002	City/State/Zip:	City/State/Zip:
phone: (503) 680-6398	phone:	phone:
fax or email: charles_a_spear@yahoo.com	fax or email:	fax or email:

SAMPLING INFORMATION

Sampling Location: Gaston High School, 300 Park St, Gaston OR 97119		P.O. #:	PWSID #:
Sampled By:	Project Name:	Project #:	Permit #:

Send results to OR State Health Division? (Please circle) Yes No

Lab ID (Lab use only)	Sample Identification (Please enter a unique ID per line for each separate sample)	Date Collected	Time Collected (Begin-End if comp.)	Sample Matrix*	# of cont. rec'd	Analysis Requested**: LEAD	SEE ATTACHED	Sample Specific Notes/Field Data (for each WW sample, specify Grab / Composite; for each DW sample, specify Raw / Treated, Source / Distribution, Single / Combined WHERE APPLICABLE)
	11950200-075CF21A	4/14/21	11:00 am	DW	1			grab/raw/single
	11950200-076CF21A		11:00 am					
	11950200-077CF21A		11:01 am					
	11950200-078CF21A		11:01 am					
	11950200-079CF21A		11:02 am					
	11950200-080DW21A		11:03 am					
	11950200-081DW21A		11:03 am					
	11950200-082BF21A		11:03 am					
	11950200-083BF21A		11:03 am					
	11950200-084DW21A		11:04 am					

Relinquished By (print):	Company:	Date/Time:	Signature:	Received By:	Company:	Date/Time:	Signature:
Charles Spear	EIS	4/16/21	Charles Spear				
Charles Spear	EIS	4/16/21	Charles Spear				

The most current revision of SOP-10-003 was used when these samples were collected ☐

Received by Laboratory Log-In Staff: Date/Time: Temp. on receipt: _____ °C On ice? Y N Containers Intact? Y N ID: TRM-10-_____

* Drinking water (DW), effluent (EFF), ground water (GW), influent (INF), non-aqueous liquid (NAL), paint chips, raw water (RW), sludge, soil, solid, source water (SOURCE), spring, stormwater (SW), surface water, wastewater (WW), well water (WELL)

** Analyses for SOC, Radionuclide, Radon, and Asbestos are subcontracted out to other accredited laboratories.

Chain of Custody Record

Laboratory Job Number: _____

Alexin Analytical LABORATORIES, INC. Professional Laboratory Services
13035 SW Pacific Hwy Tigard, OR 97223 ph: 503.639.9311 fax: 503.684.1588 email:mail@alexinlabs.com

Client Contact Information	Results Reporting Information	Invoicing Information
Company/Client Name: EIS	Project Manager: Charles Spear	Accounts Payable Contact:
Address: 11981 Fargo Road	Mailing Address:	Mailing Address:
City/State/Zip: Aurora, OR 97002	City/State/Zip:	City/State/Zip:
phone: (503) 680-6358	phone:	phone:
fax or email:	fax or email:	fax or email:

SAMPLING INFORMATION

Sampling Location: Gaston H/S		P.O. #:	PWSID #:
Sampled By: Charles Spear	Project Name:	Project #:	Permit #:

Send results to OR State Health Division? (Please circle) Yes (No)

Lab ID (Lab use only)	Sample Identification (Please enter a unique ID per line for each separate sample)	Date Collected	(Begin-End if comp.) Time Collected	Sample Matrix*	# of cont. rec'd	Analysis Requested** LEAD	SEE ATTACHED	Sample Specific Notes/Field Data for *each* WW sample, specify **Grab** / **Composite** for *each* DW sample, specify **Raw** / **Treated**, **Source** / **Distribution**, **Single** / **Combined** WHERE APPLICABLE
	11950200-085SF21A	4/14/21	11:05 am	DW	1			grab / raw / single
	11950200-086BF21A		11:05 am					
	11950200-087BF21A		11:06 am					
	11950200-088BF21A		11:06 am					
	11950200-089BF21A		11:06 am					
	11950200-090DW21A		11:06 am					
	11950200-091BF21A		11:06					
	-092 DW21A							
	-093							
	-094							

Relinquished By (print)	Company	Date/Time	Signature	Received By	Company	Date/Time	Signature
Charles Spear	EIS	4/16/21	Charles				
Charles Spear	EIS	4/16/21	Charles Spear				

The most current revision of SOP-10-003 was used when these samples were collected ☐

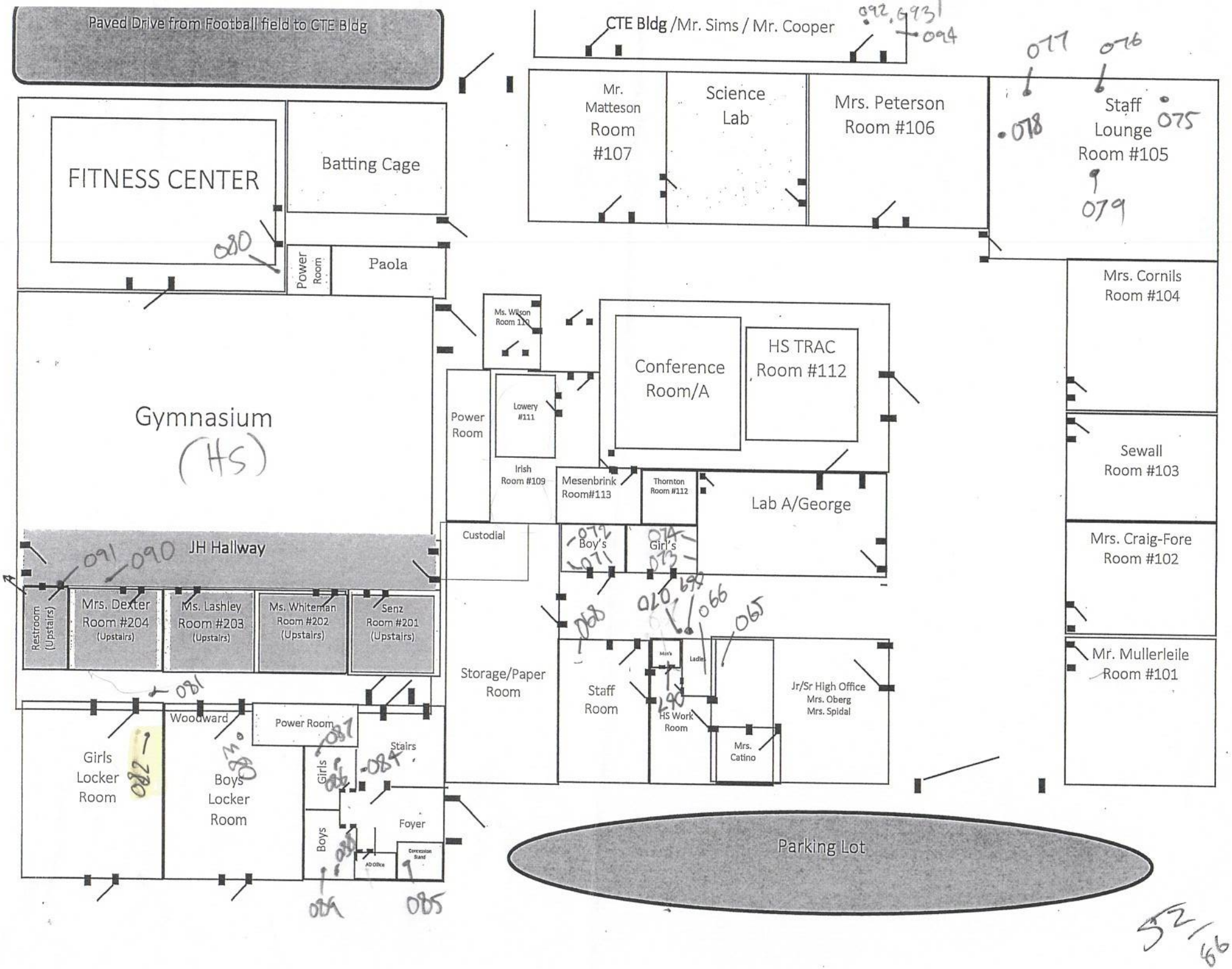
Received by Laboratory Log-In Staff: Date/Time: Temp. on receipt: _____ °C On ice? Y N Containers Intact? Y N **ID: TRM-10-** _____

* Drinking water (DW), effluent (EFF), ground water (GW), influent (INF), non-aqueous liquid (NAL), paint chips, raw water (RW), sludge, soil, solid, source water (SOURCE), spring, stormwater (SW), surface water, wastewater (WW), well water (WELL)

** Analyses for SOC, Radionuclide, Radon, and Asbestos are subcontracted out to other accredited laboratories.

APPENDIX 3.0

SCHOOL SAMPLING FLOOR PLAN


Paved Drive from Football field to CTE Bldg
CTE Bldg /Mr. Sims / Mr. Cooper
092, 093
094
077
076
Mr. Matteson Room #107
Science Lab
Mrs. Peterson Room #106
Staff Lounge Room #105
078
075
079
FITNESS CENTER
080
Batting Cage
Power Room
Paola
Mrs. Cornils Room #104
Ms. Wilson Room 110
Gymnasium (HS)
Conference Room/A
HS TRAC Room #112
Power Room
Lowery #111
Irish Room #109
Mesenbrink Room#113
Thornton Room #112
Lab A/George
Sewall Room #103
Custodial
Boy's
Girl's
071
072
073
074
JH Hallway
091
090
Restroom (Upstairs)
Mrs. Dexter Room #204 (Upstairs)
Ms. Lashley Room #203 (Upstairs)
Ms. Whiteman Room #202 (Upstairs)
Senz Room #201 (Upstairs)
068
069
070
066
065
Mrs. Craig-Fore Room #102
Storage/Paper Room
Staff Room
Men's
Ladies
HS Work Room
Jr/Sr High Office Mrs. Oberg Mrs. Spidal
Mrs. Catino
Mr. Mullerleile Room #101
081
Woodward
Power Room
087
Stairs
Girls Locker Room
082
Boys Locker Room
088
Girls
084
Foyer
Boys
089
AD Office
Concession Stand
085
Parking Lot

52/66

APPENDIX 4.0

LEAD IN WATER REGULATION

An official website of the United States government.

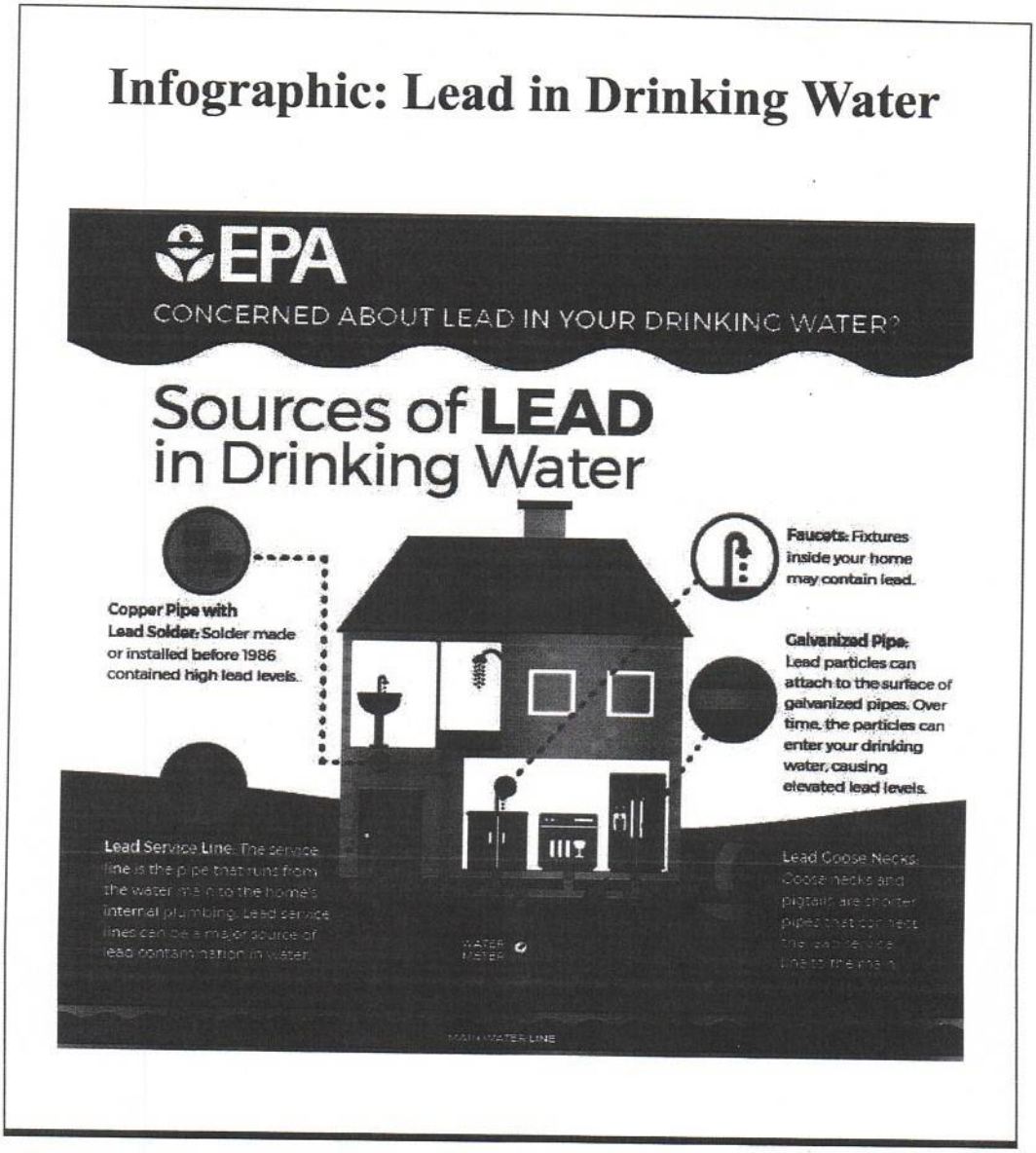
EPA United States Environmental Protection Agency

Basic Information about Lead in Drinking Water

Have a question that's not answered on this page? Contact the Safe Drinking Water Hotline.

Información relacionada disponible en español

Infographic: Lead in Drinking Water



EPA and the Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood. Lead is harmful to health, especially for children.

On this page:

General Information about Lead in Drinking Water

How Lead Gets into Drinking Water

Lead can enter drinking water when plumbing materials that contain lead corrode, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures. The most common sources of lead in drinking water are lead pipes, faucets, and fixtures. In homes with lead pipes that connect the home to the water main, also known as lead services lines, these pipes are typically the most significant source of lead in the water. Lead pipes are more likely to be found in older cities and homes built before 1986. Among homes without lead service lines, the most common problem is with brass or chrome-plated brass faucets and plumbing with lead solder.

The Safe Drinking Water Act (SDWA) has reduced the maximum allowable lead content -- that is, content that is considered "lead-free" -- to be a weighted average of 0.25 percent calculated across the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures and 0.2 percent for solder and flux.

- Learn more about the maximum allowable content of lead in pipes, solder, fittings and fixtures
- Learn more about EPA's regulations to prevent lead in drinking water
- Learn how to identify lead-free certification marks on drinking water system and plumbing products (PDF)

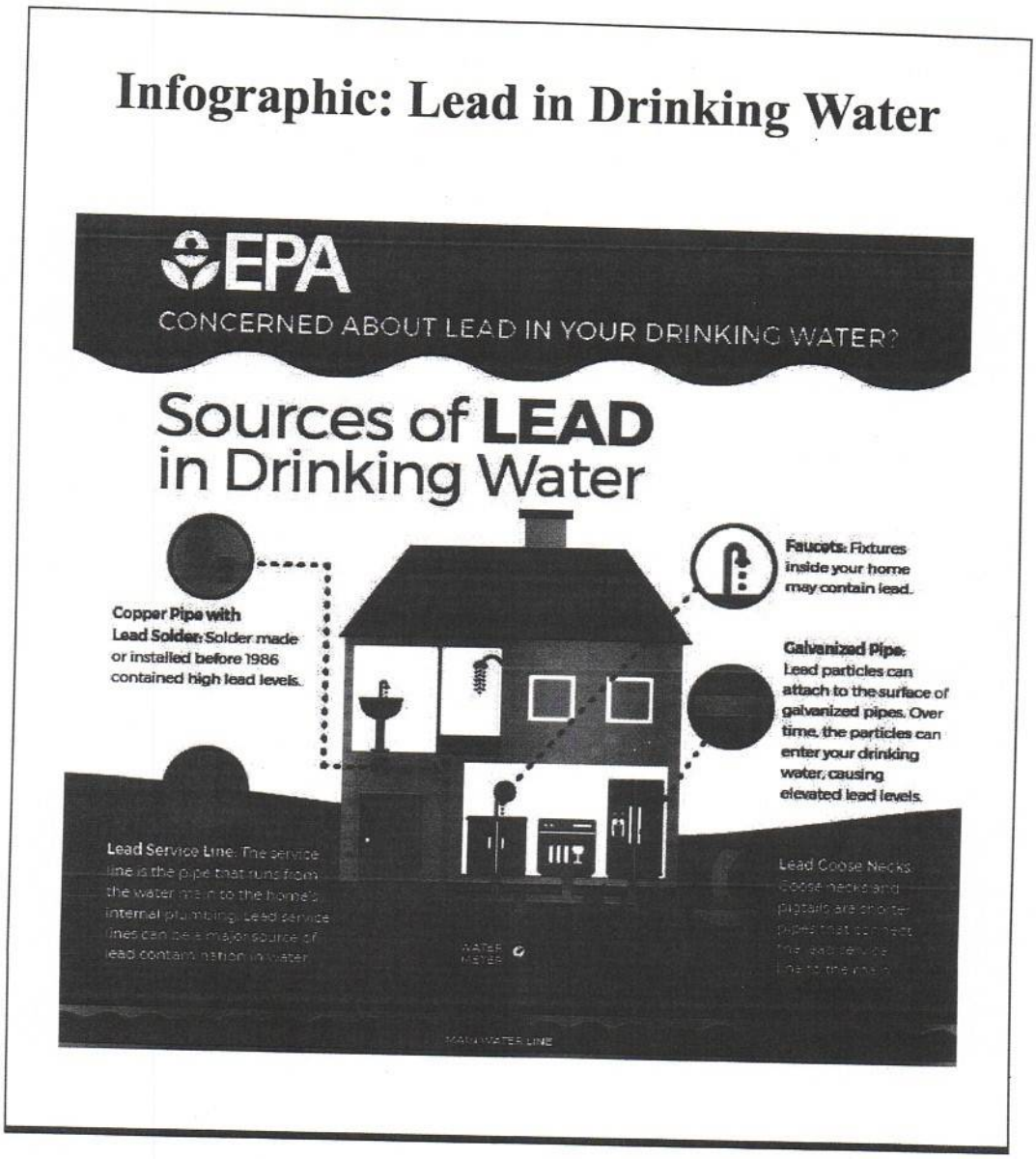
An official website of the United States government.

Basic Information about Lead in Drinking Water

Have a question that's not answered on this page? Contact the Safe Drinking Water Hotline.

Información relacionada disponible en español

Infographic: Lead in Drinking Water



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- Learn more about the maximum allowable content of lead in pipes, solder, fittings and fixtures
- Learn more about EPA's regulations to prevent lead in drinking water
- Learn how to identify lead-free certification marks on drinking water system and plumbing products (PDF)

Corrosion is a dissolving or wearing away of metal caused by a chemical reaction between water and your plumbing. A number of factors are involved in the extent to which lead enters the water, including:

- the chemistry of the water (acidity and alkalinity) and the types and amounts of minerals in the water,
- the amount of lead it comes into contact with,
- the temperature of the water,
- the amount of wear in the pipes,
- how long the water stays in pipes, and
- the presence of protective scales or coatings inside the plumbing materials.

To address corrosion of lead and copper into drinking water, EPA issued the Lead and Copper Rule (LCR) under the authority of the SDWA. One requirement of the LCR is corrosion control treatment to prevent lead and copper from contaminating drinking water. Corrosion control treatment means utilities must make drinking water less corrosive to the materials it comes into contact with on its way to consumers' taps. Learn more about EPA's regulations to prevent lead in drinking water.

Health Effects of Exposures to Lead in Drinking Water*

*The health effects information on this page is not intended to catalog all possible health effects for lead. Rather, it is intended to let you know about the most significant and probable health effects associated with lead in drinking water.

Is there a safe level of lead in drinking water?

The Safe Drinking Water Act requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur with an adequate margin of safety. These non-enforceable health goals, based solely on possible health risks, are called maximum contaminant level goals (MCLGs). EPA has set the maximum contaminant level goal for lead in drinking water at zero because lead is a toxic metal that can be harmful to human health even at low exposure levels. Lead is persistent, and it can bioaccumulate in the body over time.

Young children, infants, and fetuses are particularly vulnerable to lead because the physical and behavioral effects of lead occur at lower exposure levels in children than in adults. A dose of lead that would have little effect on an adult can have a significant effect on a child. In children, low levels of exposure have been linked to damage to the central and peripheral nervous system, learning disabilities, shorter stature, impaired hearing, and impaired formation and function of blood cells.

The Centers for Disease Control and Prevention (CDC) recommends that public health actions be initiated when the level of lead in a child's blood is 5 micrograms per deciliter (µg/dL) or more.

It is important to recognize all the ways a child can be exposed to lead. Children are exposed to lead in paint, dust, soil, air, and food, as well as drinking water. If the level of lead in a child's blood is at or above the CDC action level of 5 micrograms per deciliter, it may be due to lead exposures from a combination of sources. EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead. Infants who consume mostly mixed formula can receive 40 percent to 60 percent of their exposure to lead from drinking water.

Children

Even low levels of lead in the blood of children can result in:

- Behavior and learning problems
- Lower IQ and hyperactivity
- Slowed growth
- Hearing problems
- Anemia

In rare cases, ingestion of lead can cause seizures, coma and even death.

Pregnant Women

Lead can accumulate in our bodies over time, where it is stored in bones along with calcium. During pregnancy, lead is released from bones as maternal calcium and is used to help form the bones of the fetus. This is particularly true if a woman does not have enough dietary calcium. Lead can also cross the placental barrier exposing the fetus to lead. This can result in serious effects to the mother and her developing fetus, including:

- Reduced growth of the fetus
- Premature birth

Find out more about lead's effects on pregnancy:

- Effects of Workplace Hazards on Female Reproductive Health (National Institute for Occupational Safety and Health)

Lead can also be transmitted through breast milk. Read more on lead exposure in pregnancy and lactating women (PDF) (302 pp, 4.3 MB, About PDF)

Adults

Lead is also harmful to adults. Adults exposed to lead can suffer from:

- Cardiovascular effects, increased blood pressure and incidence of hypertension
- Decreased kidney function
- Reproductive problems (in both men and women)

Related Information

- Learn more about lead and its health effects

Can I shower in lead-contaminated water?

Yes. Bathing and showering should be safe for you and your children, even if the water contains lead over EPA's action level. Human skin does not absorb lead in water.

This information applies to most situations and to a large majority of the population, but individual circumstances may vary. Some situations, such as cases involving highly corrosive water, may require additional recommendations or more stringent actions. Your local water authority is always your first source for testing and identifying lead contamination in your tap water. Many public water authorities have websites that include data on drinking water quality, including results of lead testing. Links to such data can be found on the EPA Consumer Confidence Report website.

For more information, see CDC's "Sources of Lead: Water" Web page.

What You Can Do

Find Out if Lead is in Your Drinking Water

First, learn more about the water coming into your home

EPA requires all community water systems to prepare and deliver an annual water quality report called a ***Consumer Confidence Report (CCR)*** for their customers by July 1 of each year. Contact your water utility if you'd like to receive a copy of their latest report. If your water comes from a household well or other private water supply, check with your health department, or with any nearby water utilities that use ground water, for information on contaminants of concern in your area.

- Find your local Consumer Confidence Report
- Information about CCRs for consumers
- EPA's CCR home page
- Learn more about protecting water quality from private drinking water wells
- Printable color fact sheet: Is There Lead in My Drinking Water?

EPA's ***Public Notification Rule*** requires public water systems to alert you if there is a problem with your drinking water.

- Learn more about the Public Notification Rule

Second, you can have your water tested for lead

Homes may have internal plumbing materials containing lead. Since you cannot see, taste, or smell lead dissolved in water, testing is the only sure way of telling whether there are harmful quantities of lead in your drinking water. A list of certified laboratories are available from your state or local drinking water authority. Testing costs between $20 and $100. Contact your water supplier as they may have useful information, including whether the service connector used in your home or area is made of lead.

You can learn on our Protect Your Family from Exposures to Lead web page:

- when you may want to test your drinking water; and
- what to do if your home tests positive for lead.

You can also view and print a fact sheet on testing your home's drinking water.

Important Steps You Can Take to Reduce Lead in Drinking Water

- **Have your water tested**. Contact your water utility to have your water tested and to learn more about the lead levels in your drinking water.
- **Learn if you have a lead service line**. Contact your water utility or a licensed plumber to determine if the pipe that connects your home to the water main (called a service line) is made from lead.
- **Run your water.** Before drinking, flush your home's pipes by running the tap, taking a shower, doing laundry, or doing a load of dishes. The amount of time to run the water will depend on whether your home has a lead service line or not, and the length of the lead service line. Residents should contact their water utility for recommendations about flushing times in their community.
- **Learn about construction in your neighborhood.** Be aware of any construction or maintenance work that could disturb your lead service line. Construction may cause more lead to be released from a lead service line.
- **Use cold water.** Use only cold water for drinking, cooking and making baby formula. Remember, boiling water does not remove lead from water.
- **Clean your aerator.** Regularly clean your faucet's screen (also known as an aerator). Sediment, debris, and lead particles can collect in your aerator. If lead particles are caught in the aerator, lead can get into your water.
- **Use your filter properly.** If you use a filter, make sure you use a filter certified to remove lead. Read the directions to learn how to properly install and use your cartridge and when to replace it. Using the cartridge after it has expired can make it less effective at removing lead. Do not run hot water through the filter.

Learn more by reviewing EPA's Lead in Drinking Water Infographic.

Related Information

- Fact sheet: How to Identify Lead-Free Certification Marks for Drinking Water System & Plumbing Products (PDF)
- Factsheet: A Consumer Tool for Identifying Point of Use (POU) Drinking Water Filters Certified to Reduce Lead (PDF)
- How to make your home lead-safe
- What you can do to protect your drinking water

Get Your Child Tested to Determine Lead Levels in His or Her Blood

A family doctor or pediatrician can perform a blood test for lead and provide information about the health effects of lead. State, city or county departments of health can also provide information about how you can have your child's blood

tested for lead. The Centers for Disease Control and Prevention recommends that public health actions be initiated when the level of lead in a child's blood is 5 micrograms per deciliter (µg/dL) or more.

Find Out if Lead in Drinking Water is an Issue in Your Child's School or Child Care Facility

Children spend a significant part of their days at school or in a child care facility. The faucets that provide water used for consumption, including drinking, cooking lunch, and preparing juice and infant formula, should be tested.

- Protect your children from lead where they learn and play: learn how to test your child, and how to check the condition of schools and child care facilities
- How schools and child care centers can test for lead in drinking water
- EPA main page on drinking water at schools and child care facilities

Drinking Water Requirements for Lead

EPA's Drinking Water Regulations for Lead

In 1974, Congress passed the Safe Drinking Water Act. This law requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur with an adequate margin of safety. These non-enforceable health goals, based solely on possible health risks are called maximum contaminant level goals (MCLGs). The MCLG for lead is zero. EPA has set this level based on the best available science which shows there is no safe level of exposure to lead.

For most contaminants, EPA sets an enforceable regulation called a maximum contaminant level (MCL) based on the MCLG. MCLs are set as close to the MCLGs as possible, considering cost, benefits and the ability of public water systems to detect and remove contaminants using suitable treatment technologies.

However, because lead contamination of drinking water often results from corrosion of the plumbing materials belonging to water system customers, EPA established a treatment technique rather than an MCL for lead. A treatment technique is an enforceable procedure or level of technological performance which water systems must follow to ensure control of a contaminant.

The treatment technique regulation for lead (referred to as the ***Lead and Copper Rule***) requires water systems to control the corrosivity of the water. The regulation also requires systems to collect tap samples from sites served by the system that are more likely to have plumbing materials containing lead. If more than 10 percent of tap water samples exceed the lead action level of 15 parts per billion, then water systems are required to take additional actions including:

- Taking further steps optimize their corrosion control treatment (for water systems serving 50,000 people that have not fully optimized their corrosion control) .
- Educating the public about lead in drinking water and actions consumers can take to reduce their exposure to lead.

- Replacing the portions of lead service lines (lines that connect distribution mains to customers) under the water system's control.

EPA issued the Lead and Copper Rule in 1991 and revised the regulation in 2000 and 2007. States may set more stringent drinking water regulations than EPA.

In addition:

- EPA requires all community water systems to prepare and deliver an annual water quality report called a ***Consumer Confidence Report (CCR)*** for their customers.
  - Find your local Consumer Confidence Report
  - Information about CCRs for consumers
  - EPA's CCR home page
- EPA's ***Public Notification Rule*** requires public water systems to alert you if there is a problem with your drinking water.
  - Learn more about the Public Notification Rule.
- In 2011, changes to the Safe Drinking Water Act reduced the maximum allowable lead content -- that is, content that is considered "lead-free" -- to be a weighted average of 0.25 percent calculated across the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixture and 0.2 percent for solder and flux. Learn more about the maximum allowable content of lead in pipes, solder, fittings and fixtures.

Recent Actions and Revisions

- Webinar: Strategic Plan for Targeted Outreach to Populations Affected by Lead (March 2017)
- Long-Term Revisions to the Lead and Copper Rule -- regulatory options to improve the existing rule
- Memorandum: Implementation of the Lead and Copper Rule Provisions Related to Sample Site Selection and Triennial Monitoring (October 2016)
- Document: Optimal Corrosion Control Treatment Evaluation Technical Recommendations (March 2016)
- Memorandum: Clarifying Recommended Tap Sampling Procedures for the Lead and Copper Rule (February 2016)
- EPA Letters to Governors and State Environment and Public Health Commissioners (2016)

How EPA Requires States and Public Water Systems to Protect Drinking Water

The Safe Drinking Water Act (SDWA) requires EPA to establish and enforce standards that public drinking water systems must follow. EPA delegates primary enforcement responsibility (also called ***primacy***) for public water systems to states and tribes if they meet certain requirements. Learn more about:

- The SDWA and SDWA standards
- How EPA regulates drinking water contaminants
- Primacy enforcement responsibility for public water systems

Related Information from Other Federal Government Agencies

Centers for Disease Control and Prevention (CDC):

- About Lead in Drinking Water
- Prevention Tips for Lead in Water
- CDC main page on lead

Agency for Toxic Substances & Disease Registry (ATSDR):

- Public Health Statement for Lead
- ToxFAQs for Lead
- ATSDR main page on lead

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APPENDIX 5.0

CONSULTANT RESUME

RESUME

CHARLES ARTHUR SPEAR

CENTER FOR ENVIRONMENTAL RESEARCH & TECHNOLOGY RADON TRAINING

CERTIFIED ENVIRONMENTAL CONSULTANT (CEC) ENVIRONMENTAL ASSESSMENT ASSOCIATION

REGISTERED ENVIRONMENTAL ASSESSOR (Former) REA - 01241

AHERA INSPECTOR (EPA CERTIFICATION NO. IRO-21-2439A

CERTIFIED ENVIRONMENTAL INSPECTOR CEI - 10364

Professional Background

Charles A. Spear, President and founder of Environmental Inspection Services has over 30 years technical experience ranging from facility and school district radon testing to site remediation. Technical employment included food technologist to hazardous waste site remediation at Federal SUPERFUND sites from California to Maryland. Mr. Spear has successfully performed over 3,000 Phase One, Phase Two, and Phase Three Environmental Site Assessment inspections and multiple radon inspections and surveys on properties from California to Alaska and east to Maryland.

Mr. Spear has managed such projects as spilled mustard gas and organophosphate demilitarization and remediation as a decontamination sergeant of the U.S.Army Chemical Corps Technical Escort Unit Drill & Transfer Unit at Umatilla Army Depot and removal of leaking solvent underground storage tanks in California and Oregon. Additional experience included supervision as a USARMY NBC Specialist of focused remediation at the Federal Superfund site known as Aberdeen Proving Grounds, Maryland (Michaelsville Landfill). EIS does not conduct or perform geological work. Geologic work is referred to a state registered geologist.

Specifically, Mr. Spear has worked with clients such as: numerous school districts, Housing & Urban Development, the International Fabric Care Industry (IFI), the U.S. Environmental Protection Agency, The U.S. Department of Defense, The Oregon Department of Environmental Quality (ODEQ), The Oregon Department of Forestry, INTEL, Sun Microsystems, IBM, Rohm & Haas, General Electric, AT&T, Texaco, Unocal, BP, Lockheed Missile and Space Center, FMC Corporation, Oregon Department of Fish & Wildlife, Washington Department of Fish & Wildlife, City of Beaverton, City of Hillsboro, City of Corvallis, Housing Authority of Portland, Northwest Oregon Housing Authority, Washington County Department of Housing, Housing & Urban Development, numerous lenders and mortgage companies, many private development and site remedial site projects, and many attorneys and investors.

Mr. Spear managed complex solvent tank farm removals at Xidex Corporation in Sunnyvale, California and was the site cleanup manager at the Rose City Plating Site currently developed as the Oregon Convention Center. Mr. Spear is a certified hazardous waste professional who has coupled military experience as a Nuclear, Biological and Chemical Specialist (U,S. Army MOS 54E20) with experience as a professional industrial and process research engineer in both the corrugated paper and petroleum industries.

Mr. Spear has managed food industry quality control as an inplant food technologist and prepared cost reduction programs as a corrugated boxboard industrial engineer in Dallas, Texas. He is currently registered with the states of California, Washington, and Oregon and is an active member of the national respected Environmental Assessment Association. Due diligence projects have been performed throughout the United States from Fairbanks, Alaska to San Diego, California.

Professional experience includes the following:

Professional Experience

* Dry Cleaner Inspections
* Environmental Consultation
* Waste Reduction Audits
* Regulatory Compliance Audits
* Drum Yard Clearances
* Tank Farm Removals/Replacements
* Lab Packaging & Supervision
* Environmental Site Assessments
* Superfund Site Remediation
* Hazardous Waste site Project Design & Management
* Habitat/Wetlands Restoration
* AHERA asbestos inspections for school districts
* Landfill Remediation
* Agricultural assessments
* Indoor air quality inspections

Professional Employment/Consultation

* C.F.S. Continental Coffee, Inc., Food technologist, Chicago, Illinois
* Holiday Industries, Research Engineer, Grand Prairie, Texas
* Alton Packaging Corporation, Industrial Engineer, Dallas, Texas
* U,S. Army Chemical Corps., Nuclear, Biological, Chemical Specialist - Special assignment - Umatilla Army Depot (DATS)
  Oregon and permanent assignment U.S. Army Chemical Corps. Technical Escort Unit in Edgewood, Maryland
* Rollins Environmental Services, Remedial Project Manager
* Crown Environmental Services, Technical Director, Redmond, California
* Dames & Moore, Remedial design Engineer, Portland, Oregon
* Pegasus Environmental Management Services, Director of Technical Services
* Pacific Tank & Construction, Manager of Estimation, Portland, Oregon
* Enviro-Logic Inc., Director of Environmental Site Assessment Division
* Environmental Inspection Services Founder / President

Professional Education

* Environmental Research & Technology radon training
* American Standard for Testing & Materials ASTM E1527-13 Training
* Bachelor of Science, Chemistry, Northeastern Illinois University, 1978
* U.S. Army Chemical School, Ft. McClellan, Alabama, 1983
* U.S. Army Technical Escort Unit, Accident / Incident Response Training Center 1983
* Registered Environmental Assessor REA - 01241 (Former classification)
* Certified environmental Inspector CEI - 10364
* AHERA Certified Asbestos Inspector IR-19-2439A
* ODEQ Soil Matrix Assessor & UST Decommission Supervisor ID No. 10305
* Washington DOE Registered Environmental Assessor
* Wetland Specialist - Training Wetlands Institute 1997
* EPA / HUD Lead-Based Paint (LBP) Certified Inspector & Risk Assessor

Additional Education

* Joint Military Material Packaging & Transportation
* Asbestos Abatement Seminar attendance 1987
* Thin Layer Chromatography, 1989
* Oregon Registered Underground storage Tank Supervisor, 1998
* Oregon Registered Soil Matrix Assessor, 1998
* Washington Registered Assessor, 1991
* Washington Registered Underground Storage Tank Supervisor, 1991
* Wetland Training Institute Delineation Course Study University of Portland 1997
* 40-Hour HAZMAT Certified
* AHERA-Certified Inspector

Special Skills

* School District radon surveys and radon control planning
* Facility Environmental Compliance Audits
* ASTM standard Environmental Site Assessments
* Computer Programming
* Organic surfactant chemical synthesis and analysis
* Hazardous Waste Site remediation/ estimating/ standards development
* Design of filtration systems, batch and continuous process optimization studies
* QA/QC Procedures
* SUPERFUND Site Management
* Industrial/ Research Engineering
* Hazardous Waste Site Remediation/ Consultation
* Wetlands Delineation and Habitat Restoration

Certification

* U.S. Army MOS 54E20 - U.S. Army Chemical Corps.
* International Fire Code Institute (IFCI) Certified UST Supervisor
* International Fire Code Institute (IFCI) Certified Soil Matrix Assessor
* Certified Hazardous Waste Manager
* 40-hour OSHA Training
* 40-hour OSHA Supervisor Training
* Registered Environmental Assessor (DOE)
* DEQ Registered UST Supervisor
* DEQ Registered Soil Matrix Assessor
* Resolution Trust Corporation (RTC) approved Environmental Assessor
* California Registered Environmental Assessor (REA-01241)- program discontinued
* Department of Ecology (DOE) Registered Environmental Assessor
* Environmental Assessment Association, Certified Environmental Inspector & Transaction Specialist (CEI-10364)
* Environmental Assessment Association, Certified Environmental Consultant (CEC)
* AHERA Certified Asbestos Inspector
* Wetland Delineator Graduate Wetland Training Institute, University of Portland 1997
* EPA / HUD LBP Inspector & Risk Assessor
* ASTM Training class, May, 2004