RADON INSPECTION
The Gaston High School
300 Park Street
Gaston, Oregon
97119

Prepared For:

Brian Van Dyke, Facilities
Gaston School District SD 511J
300 Park Street
Gaston, Oregon 97119

EIS Job No. 2021001. Gaston Elementary School

EIS Job No. 2021001. Gaston High School Radon Report

Prepared By:

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March 17, 2021

ENVIRONMENTAL INSPECTION SERVICES

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1.0 EXECUTIVE SUMMARY

March 17, 2021
EIS JOB No. 2021001.Gaston High School Radon report

Brian Van Dyke, Facilities
Gaston School District SD 511J
300 Park Street
Gaston, Oregon 97119

RE: Short term radon testing of The Gaston High School
located at 300 park Street in Gaston, Oregon 97497

Dear Mr. Brian Van Dyke,

This letter summarizes the finding of a short term (48-72 hour)radon sampling test episode conducted at the subject property known as the Gaston High School located at 300 park Street in Gaston, Oregon 97119 between Friday, February 26, 2021 and Monday, March 1, 2021. The thirty-four (34) radon samplers were received by PRO-LAB on Wednesday, March 3, 2021, analyzed by PRO-LAB laboratory on Thursday, March 4, 2021, and results were reported to EIS on Tuesday, March 16, 2021. The radon sampling episode was conducted by Charles A. Spear, field representative of Environmental Inspection Services (EIS)with custodian escort through the entire Gaston High School building. **Elevated radon concentration concerns were noted for the Gaston High School based on these short term analytical test results. Short term radon concentration retesting is recommended for the high school at this time.**

Elevated radon concentrations exceeding the EPA action limit of 4.0 pCi/l were analytically detected in a total of seventeen (17) discreet samplers based on the short term simultaneous test results of the thirty-four (34)measured detached radon samplers. A total of nine (9) radon testers concentrations were very elevated at concentrations varying between 6.0 pCi/L and 8.1 pCi/L.

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The seven highest radon concentrations were analytically detected in the following samplers:

Serial No.	Tester Location	Radon Concentration
5043778	Rm 101	7.0 pCi/L
5043755	Rm 104	7.7 pCi/L
5043967	Mrs Catino	7.3 pCi/L
5044062	hs work	7.5 pCI/L
5043959	jr/sr office	7.0 pCi/L
5043828	jr/sr office	7.4 pCi/L
5043822	jr/sr office	8.1 pCi/L

Sixteen (16) radon measurements were below the action limit of 4 pCi/L. A total of sixteen (16) radon tester concentrations were low at concentrations less than 4.0 pCi/L. The very low radon concentration measurements for the school varied between 0.3 pCi/L and 1.5 pCi/L. Elevated radon concentration concerns were noted for the Gaston High School based on these short term analytical test results and short term radon concentration retesting is recommended for the high school at this time. The radon test results for the Gaston High School building are based on these elevated short term simultaneous test results.

Elevated radon considerations were noted for the Gaston High School building based on the short term simultaneous test results of the thirty-four (34)measured radon samplers placed throughout the Gaston High School building. The average building radon concentration level approaches the EPA Action limit of 4.0 pCi/L at an average radon concentration of 3.80 pCi/L. The EPA notes there is no safe level of radon. If there are questions concerning the radon testing at the Gaston High school please initially contact the Gaston High School at (503) 985-0210.

Charles Arthur Spear
Environmental Professional

2.0 RADON ENVIRONMENTAL RISK

The U.S Environmental Protection Agency (EPA) and other major national and international scientific organizations have concluded that radon is a human carcinogen and poses a serious environmental health problem. The EPA recommends that schools take action to reduce the level of radon concentration if radon concentration levels are 4 pCi/L or higher.

The U.S Surgeon General has warned about the health risk from the exposure to radon in indoor air. The surgeon general has urged Americans to test their homes because radon is the leading cause of lung cancer for non-smokers in the United Sates and breathing in radon over prolonged periods can present a significant health risk. The USEPA has estimated that approximately 21,000 lung cancer-related deaths occur annually with am estimated 275 lung cancer deaths annually in Oregon.

The US EPA has states that "Any exposure has some risk of causing lung cancer. The lower the radon risk level in your home, the lower your family's risk of lung cancer." The EPA has noted that depending on your geographic location the radon levels of air you breathe outside the home may be as High as 0.74 pCi./L. The national average of outside radon levels are 0.4 pCi/L and it has been estimated by The National Academy of Sciences that outdoor radon levels cause approximately 800 of the 21,000 radon induced lung cancer deaths in the US each year.

Radon Act 51 passed by Congress set the national outdoor level of radon gas (0.4pCi/L) as the target radon level for indoor radon levels. Unfortunately, two-thirds of all homes exceeded this level. The USEPA was tasked with setting practical guidelines and recommendations for the nation. The USEPA thereby set a practical level of 4pCi/L as an action level for radon.

Elevated radon concentrations exceeding the EPA action limit of 4.0 pCi/l were analytically detected in a total of seventeen (17) discreet samplers based on the short term simultaneous test results of the thirty-four (34)measured detached radon samplers. A total of nine (9) radon testers concentrations were very elevated at concentrations varying between 6.0 pCi/L and 8.1 pCi/L.

3.0 RADON HEALTH EFFECTS

Radon is a known human carcinogen. The prolonged exposure to elevated radon concentrations does cause an increased risk of lung cancer. The precise magnitude of radon health risks are uncertain and research continues regarding these health risks. The EPA has estimated that radon may cause nearly 14,000 lung cancer deaths in the United States each year. However,, this number could range from nearly 7,000 to 30,000 deaths per year. The U.S. Surgeon general has warned that radon is the second-leading cause of lung cancer deaths. The individual risks from radon exposure have been attributed to three factors; the level of radon, the duration of radon exposure, and the individual smoking habits. The risk of death from lung cancer has been determined to be much higher for smokers than non-smokers.

The EPA has noted that the home is to be the most likely significant source of radon exposure. Additionally, the EPA has also noted that the second largest potential contributor to radon exposure is likely to be schools. The EPA has recommended that school buildings be tested for radon. In 1989 and 1990, the EPA conducted the School Protocol Development Study as a nationwide effort to further examine how best to conduct radon measurements in schools.

4.0 RADON DESCRIPTION

Radon is a gas and the radon decay products are referred to as solid particles (progeny). The radon particles may become suspended in the air when they are formed. Some particles "plate-out" (attach) to surfaces as aerosols, dust, and/or smoke particle in air. The inhalation of the particles has attributed to lung tissue damage and may affect DNA.

Radon gas is an extremely toxic, chemically inert, odorless, colorless, and tasteless naturally-occurring radioactive element having the symbol Rn. Radon has the atomic number 86; an atomic weight of 222; a melting point of -71 degrees Celsius; a boiling point of -62 degrees; and 18 radioactive isotopes. It is derived from the radioactive decay of radium and is used in cancer treatment; as a tracer in leak detection; and in radiology.

5.0 RADON CHARACTERISTICS

The concentrations of radon in a building are dependent on factors to include the concentration of uranium and radium in the soil; the type of underlying geology; soil permeability; available migration pathways such as subsurface utilities; foundation openings; air temperature and pressure differentials and building ventilation.

Radon may migrate into a study area by either a pressure driven transport or no pressure differentials. The subject Gaston high School Buildings were built on concrete foundation and slab on slab foundations. Radon may migrate through foundations by the availability of expansion joints and cracks in the foundation. Radon may also migrate into a building through basements, utility trenches, pipe runs, HVAC systems, and other building ventilation systems. Radon contributions from building materials off-gassing are not often the source of measurable radon.

6.0 RADON TESTING ACTIVITY

The EPA has shown that radon concentration levels may vary from room to room in schools in the same building. It is also known that radon measurements for a particular room are not always precise indicators of radon measurements in adjacent rooms. ORS 332.166-167 has therefore required that radon measurement teams measure radon in schools with initial radon measurements conducted in all frequently occupied rooms in contact with the soil or above a basement crawlspace.

The OHA requires a simultaneous initial test of all frequently occupied rooms to include such rooms as offices, classrooms, and resource rooms. The OHA requires a minimum of one detector per every 2,000 square feet of open floor space or a portion of the room as required. The EPA has also noted that radon levels in upper floors are not likely to exceed the levels of lower rooms. The EPA has determined that testing the ground level floors is sufficient for initial radon concentration determinations.

EPA recommends that initial measurements be performed by the utilization of short term testers placed in the lowest section of the subject buildings and performed under closed door conditions. An initial short term test ensures that school students and workers may be informed quickly if radon measurements reveal elevated radon test levels. If the short term measurement is greater than 4 picoCuries per liter (pCi/L) or 0.02 working levels (WL), a followup measurement is recommended. The purpose of the follow up measurement is to determine whether or not radon mitigation is necessary for the measurement area.

A total of thirty-four (34) short term radon test units were placed throughout the Gaston High School building frequently occupied areas to include offices, classrooms, and resource rooms. All radon measurements varied between four (4) low radon concentration measurements of 0.3 pCi/L and one (1) very high radon concentration measurement of 8.1 pCi/L. **Seventeen (17) radon measurements were elevated at radon concentrations exceeding 4.0 pCi/L and three (3) radon concentration measurements approached the EPA action limit with radon concentration measurements varying between 3.7 pCi/L and 3.9 pCi/l.** All of the analytical test results are summarized in a spreadsheet included in Appendix 1.0.

The radon samplers were opened on Friday, February 26, 2021 and capped on Monday, March 1, 2021. The capped radon samplers were packaged; logged on a chain of custody form; and shipped to ProLab Laboratories. Radon test results were reported to EIS on Tuesday, March 16, 2021. All radon measurement levels were at low concentrations varying between Four (4) low measurements of 0.3 pCi/L and one (1) high radon concentration measurement of 8.1 pCi/L. Elevated radon concentrations were confirmed at Gaston High School.

7.0 RADON TEST RESULTS SUMMARY TABLE

A total of thirty-four (34) measured short term radon test units were placed throughout the Gaston High School building frequently occupied areas to include the offices, classrooms, and resource rooms in a single building. The radon samplers were opened on Friday, February 26, 2021 and capped on Monday, March 1, 2021. Radon test results were reported to EIS on Tuesday, March 16, 2021. A total of thirty-four (34)radon measurements were received with measurement concentrations varying between low radon concentrations of 0.3 pCi/L to the single high measurement of 8.1 pCi/L. **A total of seventeen (17) radon sampler detected radon concentrations exceeded the EPA Action limit of 4.0 pCi/L.**

The following radon concentration table summarizes the all the analytical test results;

Tester Total	radon concentration measurement
4	0.3 pCi/L
1	0.7 pCi/L
3	0.9 pCi/L
2	1.0 pCi/L
1	1.3 pCi/L
1	1.5 pCi/L
1	2.4 pCi/L
1	3.7 pCi/L
1	3.8 pCi/L
1	3.9 pCi/L
	EPA ACTION LIMIT (4.0 Pci/L)
2	4.1 pCi/L
1	4.2 pCi/L
1	4.4 pCi/L
1	4.7 pCi/L
1	5.3 pCi/L
1	5.5 pCi/L
1	5.8 pCi/L
1	6.0 pCi/L
1	6.5 pCi/L
2	7.0 pCi/L
1	7.3 pCi/L
1	7.5 pCi/L
1	7.4 pCi/L
1	7.7 pCi/L
1	8.1 pCi/L

Total - 34 Testers

The seven highest radon concentrations were analytically detected in the following samplers:

Serial No.	Tester Location	Radon Concentration
5043778	Rm 101	7.0 pCi/L
5043755	Rm 104	7.7 pCi/L
5043967	Mrs Catino	7.3 pCi/L
5044062	hs work	7.5 pCI/L
5043959	jr/sr office	7.0 pCi/L
5043828	jr/sr office	7.4 pCi/L
5043822	jr/sr office	8.1 pCi/L

Sixteen (16) radon measurements were below the action limit of 4 pCi/L. The very low radon concentration measurements for the school varied between 0.3 pCi/L and 1.5 pCi/L. Elevated radon concentration concerns were noted for the Gaston High School based on the elevated analytical test results and short term radon concentration retesting is recommended for the high school at this time. The radon test results for the Gaston High School building are based on these elevated short term simultaneous test results.

This radon sampling episode noted the following;

Total number of measured testers - thirty-four (34)
High readings (4.0-8.1 pCi/L) - seventeen (17)
Low readings (at 0.3 pCi/L) - four(4)
Average radon concentration measurement - 3.8 pCi/L

8.0 RADON MEASUREMENT RISK ASSESSMENT

The average Gaston High High School building reading was 3.80 pCi/L with significant analytical test results variances between 0.3 pCi/L and 8.1 pCi/L. Additional short term test radon testing is recommended for the Gaston High School building at this time based on these radon short term analytical test results.

The U.S surgeon general has warned about the health risk from the exposure to radon in indoor air. The surgeon general has urged Americans to test their homes because radon is the leading cause of lung cancer for non-smokers in the United Sates and breathing in radon over prolonged periods can present a significant health risk. The USEPA has estimated that approximately 21,000 lung cancer-related deaths occur annually with am estimated 275 lung cancer deaths annually in Oregon.

9.0 RADON LABORATORY ANALYSIS

The radon in test samplers was measured at the Pro-Lab Laboratory located at 1675 North Commerce Parkway in Weston, Florida using the liquid scintillation Method (EPA 402-R-92-004). The selected radon sampler devices utilized at the Gaston high School building are described as passive activated charcoal adsorption devices (AC).

The short term testers utilize activated carbon to absorb the radon gas in the air. The test unit has activated carbon with a perforation screen to filter out radon decay products. The absorber is resealed by EIS and shipped to Pro-Lab for processing and evaluation. The selected passive radon tester devices do not uniformly adsorb radon during the testing episode and are not described as integrating devices.

The total of thirty-four (34) radon test units supplied by a certified laboratory known as Pro-Lab were utilized at the Gaston High School building. The testers were placed within functional frequently occupied Gaston High School building areas such as classrooms, offices, and resource rooms, between Friday, February 26, 2021 and Monday, March 1, 2021.

The total of thirty-four (34) short term samplers were capped and submitted to Pro-lab laboratories for radon analysis and analyzed by the Pro-Lab laboratories on Thursday, March 4, 2021. Radon test results were reported to EIS on Tuesday, March 16, 2021. Elevated radon concentrations were detected in seventeen (17) of the thirty-four (34)radon samplers.

10.0 QUALITY ASSURANCE / QUALITY CONTROL

Quality Assurance measurements were conducted during the initial testing episode. Minimum acceptable standards of precision and accuracy were maintained during the entire course of the radon testing period. The Quality Assurance protocol included the inclusion of side by side detectors (duplicates) and unexposed control detectors (Blanks).

The "blanks" are defined as tester measurements by analyzing unexposed (closed) radon detectors that accompany exposed detectors to the field. The school district may utilize blanks in order to assess any change in analysis caused by anything outside the immediate room conditions. Background levels may be due to leakage of radon into the tester, detector response to gamma radiation or other causes.

The duplicates were placed as pairs of detectors deployed in the same location side by side during the identical testing periods. Duplicate placements were at least ten percent of the measurement locations. The duplicates were placed, shipped, and manifested with chains of custody to Pro-lab for analysis in the same manner as the other devices so that processing at the laboratory could not distinguish the testers.

The five (5)duplicate and blank samplers are listed as follows;

Serial No.	Location	Radon Concentration
5043943	rm 105 - dup	5.8 pCi/L
5043688	gym - dup	0.9 pCi/L
5043763	gym - blank	0.3 pCI/L
5043932	fitness - dup	1.5 pCI/L
5043717	CTE - dup	0.3 pCi/L

Spike samples are handled and spiked by the PRO-LAB laboratory and results remain as internal tests and confidential per regulation. Spike samples are routinely conducted per the laboratory proficiency requirements.

An independent company, Bowser Morner located at 4514 Taylorsville Road (phone No. 937-236-8805)conducts routine controls for proLab. Bowser Morner participated in spike testing using liquid scintillation charcoal devices (NRPP device Code # 7084). None of the values of absolute individual Relative Error of the reported measurements was greater than 25%; therefore, the lab passed the performance test. The letter was signed by Rebecca J. Turek Manager of the Radon Reference laboratory of Bowser-Morner, Inc. A copy of the results of the performance test are attached as Appendix 1.0.

11.0 RECOMMENDATIONS & CONCLUSIONS

Radon measurement levels were generally elevated with a high school detected average radon concentration of 3.80 pCi/L with noteworthy concentration variances between 0.3 pCi/L and 8.1 pCi/L. Elevated radon concentrations were analytically detected in a total of seventeen (17) radon samplers predominantly placed between Room No. 101 and Room No. 113 with additional elevated radon concentration measurements in the jr/Sr. offices and Mrs. Catino's office and staff room.

In the opinion of EIS, additional short term radon retesting is required at the Gaston High School Buildings. In the opinion of EIS, the radon test results are indicative of elevated radon conditions in the functional classroom, offices, and resource rooms. The sample analytical position and result tables are listed in Appendix 1.0 of this report.

In the opinion of EIS, significant data gaps remain concerning radon risk at the subject property based on current initial short term analytical radon test results. Actual radon analytical test results are included as listed in Appendix 1.0 of this report.

In the opinion of EIS, based on actual extensive passive radon testing at the subject Gaston High school building, additional limited short term radon retesting is recommended at the Gaston High School Building at this time. In the opinion of EIS, the elevated radon test results are generally indicative of elevated radon conditions at the Gaston High School Building. If there are questions concerning the radon testing at the High school please initially contact the Gaston High School at (503) 985-0210.

Respectfully,

Charles A. Spear
Environmental Professional

12.0 PUBLIC AWARENESS

ORS 332.166-167 requires that school districts make all test results available: to the district school board; the Oregon Health Authority with a post to the website and to parents, guardians, students, school employees, school volunteers, administrators, and community representatives at the school or district office or website.

The EPA,OHA Oregon Radon Awareness Program and numerous non-governmental groups recommend that the school district take action to reduce the radon level in those rooms where the average of the initial and follow-up short-term test kit results or the results of the long-term test kit used in the followup is 4.0 pCi/L or higher.

Although not required of school districts under ORS 332.166-167 , it is recommended that school administration direct appropriate staff to adjust the building's HVAC system and then re-test if elevated radon concentration measurements are submitted for a target school. If the HVAC adjustment doesn't reduce the radon concentration measurement levels below 4 pCi/l then radon mitigation performed by a radon mitigation professional is recommended.

12.1 - Radon related questions and concerns should be forwarded to your state radon office. The following web sites, hotlines, and publications are submitted for reference:

12.2 - world wide web sites:

http://www.epa.gov/radon - EPA's primary radon web site

http://www.epa.gov/iaq/whereyoulive.html. - information for state web sites

http: //www.epa.gov/iag/radon/pubs/index.html - Full text versions of the most popular radon publications

http.//www.epa.gov/iaq - EPA air quality risk documents

http://www.epa.gov/safewater/radon.html

12.3 - Toll free radon information hotlines :

1-800-SOS-RADON (767-7236) - Radon test kit services
1-800-55RADON (557-2366) - Radon questions & answers
1-800-644-6999 - Radon reduction information for homes
1-866-528-3187 - Linea Directa de Inforamacion sobre Radon en Espanol.
1-800-426-4791 - Safe Drinking Water Hotline

12.4 - Printed documents:
- Home Buyers and Sellers Guide to Radon (EPA 402/K-09/002, January 2009)

-State radon offices;
see http://www.epa.gov/iaq/whereyoulive.html

- National Service center for Environmental Publications (NSCEP) at 1-800-490-9198, http://www.epa.gov/nscep/ or via email at nscep@bps-lmit.com

13.0 LIMITATIONS

This report was prepared in accordance with generally accepted ASTM standards of environmental practice at the time this investigation was performed. Evaluations of the conditions at the site for the purpose of this investigation are made from a limited number of observation and sample points and may be subjective in some cases. The client is solely responsible for providing any notices or disclosures to concerned public agencies or to the public.

Environmental Inspection Services has prepared this report based on information collected from available analytical test results. The scope of this investigation is limited and did include a limited number of radon testers and no subsurface or sub-slab radon screening of soil and groundwater. No radon mitigation was performed on the subject property.

This report is not a substitution for a formal radon mitigation and/or radon mitigation effort. The findings and conclusions are not to be regarded as scientific certainties. Findings are based on professional judgement concerning independent laboratory data significance. This report is an expression of professional opinion and is not a warranty expressed or implied.

APPENDIX 1.0

RADON ANALYTICAL TEST RESULTS

ENVIRONMENTAL INSPECTION SERVICE, INC.

11981 Fargo Rd NE
Aurora, OR 97002
503-680-6398

Charles_a_spear@yahoo.com

GASTON HIGH SCHOOL
300 PARK ST, GASTON, OR, 97119

Vial #	Location	Start Date	Start Time	End Date	End Time	Radon Concentration (pCi/L)
5043778	101	02/26/2021	10:00 AM	03/01/2021	10:20 AM	7.0
5043723	102	02/26/2021	10:00 AM	03/01/2021	10:20 AM	3.8
5043755	103	02/26/2021	10:01 AM	03/01/2021	10:20 AM	3.9
5043705	104	02/26/2021	10:01 AM	03/01/2021	10:21 AM	7.7
5043697	105	02/26/2021	10:01 AM	03/01/2021	10:22 AM	6.5
5043943	105 DUP	02/26/2021	10:01 AM	03/01/2021	10:22 AM	5.8
5043937	106	02/26/2021	10:02 AM	03/01/2021	10:23 AM	4.1
5043671	107	02/26/2021	10:02 AM	03/01/2021	10:23 AM	2.4
5041329	CONF RM A	02/26/2021	10:03 AM	03/01/2021	10:23 AM	4.2
5043768	112	02/26/2021	10:03 AM	03/01/2021	10:24 AM	4.7
5044169	110	02/26/2021	10:03 AM	03/01/2021	10:24 AM	4.1
5044116	111	02/26/2021	10:00 AM	03/01/2021	10:25 AM	4.4
5043394	109	02/26/2021	10:04 AM	03/01/2021	10:25 AM	5.5
5043748	113	02/26/2021	10:04 AM	03/01/2021	10:26 AM	6.0
5043931	112	02/26/2021	10:04 AM	03/01/2021	10:27 AM	3.8
5043713	LAB A	02/26/2021	10:05 AM	03/01/2021	10:27 AM	3.7
5043959	JR/SR OFF	02/26/2021	10:05 AM	03/01/2021	10:28 AM	7.0
5043828	JR/SR OFF	02/26/2021	10:05 AM	03/01/2021	10:28 AM	7.4
5043822	JR/SR OFF	02/26/2021	10:05 AM	03/01/2021	10:28 AM	8.1
5043967	MRS. CATINO	02/26/2021	10:05 AM	03/01/2021	10:29 AM	7.3
5044062	HS WORK	02/26/2021	10:05 AM	03/01/2021	10:30 AM	7.5
5043614	STAFF	02/26/2021	10:06 AM	03/01/2021	10:30 AM	5.3
5043765	GYM	02/26/2021	10:06 AM	03/01/2021	10:31 AM	0.9
5043993	GYM	02/26/2021	10:06 AM	03/01/2021	10:31 AM	0.9
5044088	GYM	02/26/2021	10:06 AM	03/01/2021	10:31 AM	1.0
5043792	GYM	02/26/2021	10:06 AM	03/01/2021	10:31 AM	1.0
5043688	GYM DUP	02/26/2021	10:07 AM	03/01/2021	10:32 AM	0.9
5043763	GYM BLANK	02/26/2021	10:07 AM	03/01/2021	10:32 AM	<0.3
5041249	FITNESS	02/26/2021	10:07 AM	03/01/2021	10:33 AM	0.7
5041238	FITNESS	02/26/2021	10:08 AM	03/01/2021	10:33 AM	1.3
5043932	FITNESS DUP	02/26/2021	10:08 AM	03/01/2021	10:33 AM	1.5
5043785	CTE	02/26/2021	10:09 AM	03/01/2021	10:34 AM	<0.3
5043996	CTE	02/26/2021	10:09 AM	03/01/2021	10:34 AM	<0.3
5043717	CTE DUP	02/26/2021	10:09 AM	03/01/2021	10:35 AM	<0.3

APPENDIX 2.0

CHAIN'S OF CUSTODY (COC'S)

RADON CHAIN OF CUSTODY

CLIENT ADDRESS EIS
11981 Fargo Rd NE
Aurora, OR 97002

TEST ADDRESS Gaston High School
300 park St
Gaston, OR 97119

SERIAL No.	LOCATION	CAP OFF TIME	DATE	CAP ON TIME	DATE	RESULTS
5043778	101	10:00 am	2/26	10:20 am	3/1	
5043723	102	10:00		10:20		
5043755	103	10:01		10:20		
5043705	104	10:01		10:21		
5043687	105	10:01		10:22		
5043943	105 (dup)	10:01		10:22		
5043937	106	10:02		10:23		
5043671	107	10:02		10:23		
5041329	Conf. Rm A	10:03		10:23		
5043768	112	10:03		10:24		
5044169	110	10:03		10:24		
5044116	111	10:04		10:25		
5043944	109	10:04		10:25		
5043748	113	10:04		10:26		
5043931	112	10:04		10:27		
5043713	Lab A	10:05		10:27		
5043759	JR/SR off	10:05		10:28		
5043828	↓	10:05		10:28		
5043677		10:05		10:28		
5043822	↓	10:05	↓	10:28	↓	

RADON CHAIN OF CUSTODY

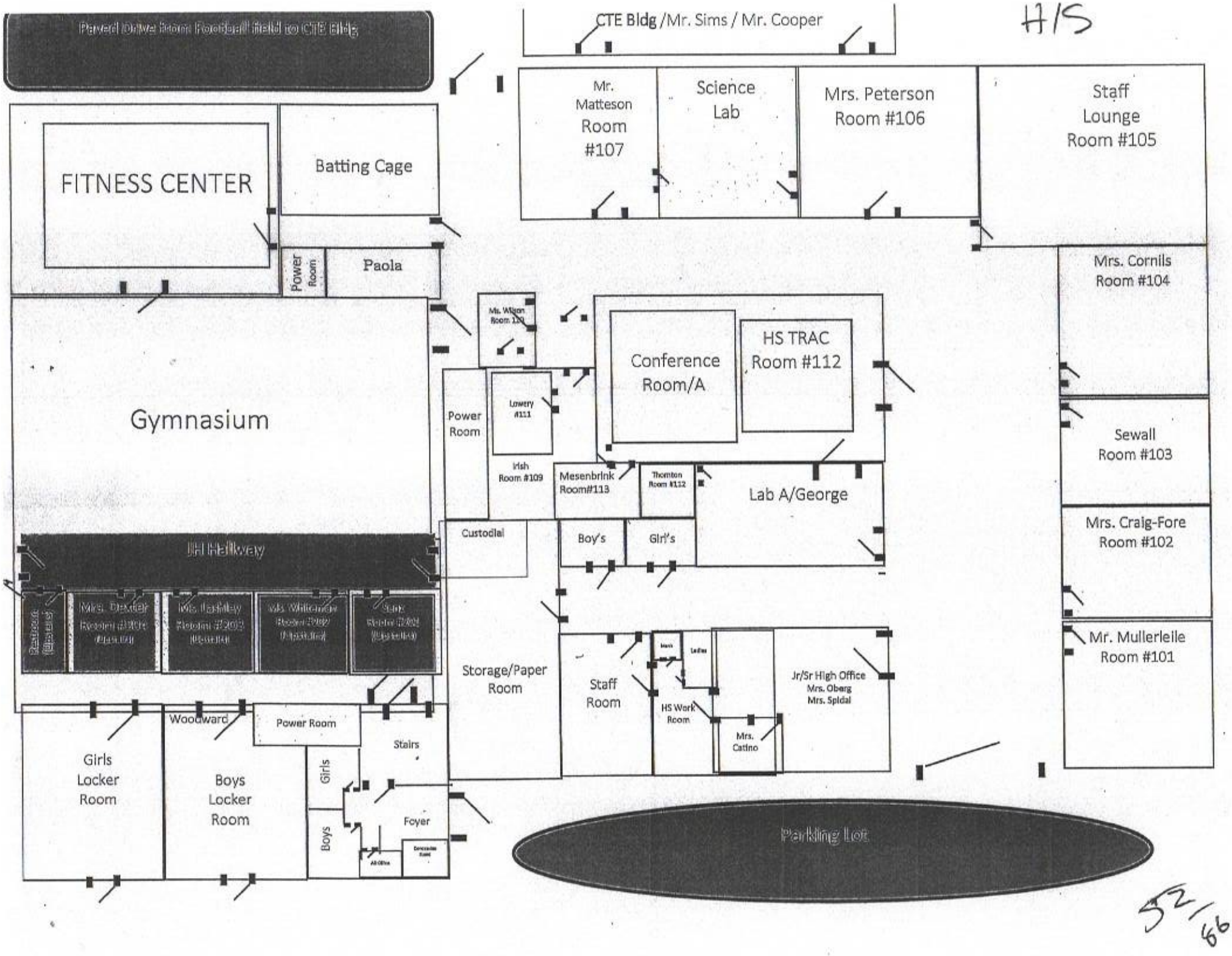
CLIENT ADDRESS ETS
11981 Fargo Rd NE
Aurora, OR 97002

TEST ADDRESS Gaston H/S
200 park St
Gaston, OR 97119

SERIAL No.	LOCATION	CAP OFF TIME	DATE	CAP ON TIME	DATE	RESULTS
5043967	MRS. Cating	10:05 am	2/26	10:29am	3/1	
5044062	HS Work	10:05		10:30		
5043614	Staff	10:06		10:30		
5043785	GYM	10:06		10:31		
5043993	↓	10:06		10:31		
5044088		10:06		10:31		
5043792	↓	10:06		10:31		
5043688	GYM (dup)	10:07		10:32		
5043763	GYM (Staff)	10:07		10:32		
5041249	Fitness	10:07		10:33		
5041238	↓	10:08		10:33		
5043732	Fitness (dup)	10:08		10:33		
5043785	CTE	10:09		10:34		
5043996	↓	10:09		10:34		
5043717	CTE (dup)	10:09	↓	10:35	↓	

APPENDIX 3.0

SCHOOL SAMPLING FLOOR PLAN


H/S
Paved Drive from Football field to CTE Bldg
CTE Bldg /Mr. Sims / Mr. Cooper
Mr. Matteson Room #107
Science Lab
Mrs. Peterson Room #106
Staff Lounge Room #105
FITNESS CENTER
Batting Cage
Power Room
Paola
Mrs. Cornils Room #104
Ms. Wigon Room 120
Conference Room/A
HS TRAC Room #112
Gymnasium
Power Room
Lowery #111
Irish Room #109
Mesenbrink Room#113
Thornton Room #112
Lab A/George
Sewall Room #103
Custodial
Boy's
Girl's
IH Hallway
Mrs. Craig-Fore Room #102
Mr. Mullerleile Room #101
Storage/Paper Room
Staff Room
HS Work Room
Jr/Sr High Office Mrs. Oberg Mrs. Spidal
Mrs. Catino
Woodward
Power Room
Stairs
Girls Locker Room
Boys Locker Room
Girls
Foyer
Boys
Parking Lot
52/66

APPENDIX 4.0

RADON REGULATION

News Release

FOR IMMEDIATE RELEASE
Thursday, January 13, 2005

Contact: HHS Press Office
(202) 690-6343

Surgeon General Releases National Health Advisory On Radon

U.S. Surgeon General Richard H. Carmona warned the American public about the risks of breathing indoor radon by issuing a national health advisory today. The advisory is meant to urge Americans to prevent this silent radioactive gas from seeping into their homes and building up to dangerous levels. Dr. Carmona issued the advisory during a two-day Surgeon General's Workshop on Healthy Indoor Environment.

"Indoor radon is the second-leading cause of lung cancer in the United States and breathing it over prolonged periods can present a significant health risk to families all over the county," Dr. Carmona said. "It's important to know that this threat is completely preventable. Radon can be detected with a simple test and fixed through well-established venting techniques."

Radon is an invisible, odorless and tasteless gas, with no immediate health symptoms, that comes from the breakdown of uranium inside the earth. Simple test kits can reveal the amount of radon in any building. Those with high levels can be fixed with simple and affordable venting techniques. According to U.S. Environmental Protection Agency (EPA) estimates, one in every 15 homes nationwide have a high radon level at or above the recommended radon action level of 4 picoCuries (pCi/L) per liter of air.

National Health Advisory on Radon

Radon gas in the indoor air of America's homes poses a serious health risk. More than 20,000 Americans die of radon-related lung cancer every year. Millions of homes have an elevated radon level. If you also smoke, your risk of lung cancer is much higher. Test your home for radon every two years, and retest any time you move, make structural changes to your home, or occupy a previously unused level of a house. If you have a radon level of 4 pCi/L or more, take steps to remedy the problem as soon as possible.

"Americans need to know about the risks of indoor radon and have the information and tools they need to take action. That's why EPA is actively promoting the Surgeon General's advice urging all Americans to get their homes tested for radon. If families do find elevated levels in their homes, they can take inexpensive steps that will reduce exposure to this risk," said Jeffrey R. Holmstead, Assistant Administrator, Office of Air and Radiation, U.S. Environmental Protection Agency (EPA).

"Based on national averages, we can expect that many of the homes owned or financed by federal government programs would have potentially elevated radon levels. The federal government has an opportunity to lead by example on this public health risk. We can accomplish this by using the outreach and awareness avenues we have, such as EPA's Web site, to share information and encourage action on radon to reduce risks," said Edwin Piñero, Federal Environmental Executive, Office of the Federal Environmental Executive (OFEE).

A national Public Service Announcement (PSA) that was released to television stations across America in January, National Radon Action Month, is reinforcing this recently updated health advisory. In the television spot, the camera scans a neighborhood with rooftop banners that remind the occupants of the importance to test their homes for radon. The television PSA can be viewed at: http://www.epa.gov/radon/rnpsa.html.

For more information about radon go to EPA's Web site www.epa.gov/radon; or call your state radon office; or call a national toll-free hotline at 1-800-SOS-RADON (1-800-767-7236).

The Surgeon General's Workshop on Healthy Indoor Environment is bringing together the best scientific minds in the nation to discuss the continuing problem of unhealthful buildings. Indoor environments are structures including workplaces, schools, offices, houses and apartment buildings, and vehicles. According to a recent study, Americans spend between 85 and 95 percent of their time indoors.

In just the past 25 years, the percentage of health evaluations that the National Institute for Occupational Safety and Health at the Centers for Disease Control and Prevention (CDC) has conducted related to indoor-air quality has increased from 0.5 percent of all evaluations in 1978, to 52 percent of all evaluations since 1990. This means that in those years, the evaluations related to air quality concerns have increased from one of every 200 evaluations to one of every two.

The problem is also adversely affecting our children's health as millions of homes and apartments and one in five schools in America have indoor air quality problems. This can trigger various allergies and asthma. Asthma alone accounts for 14 million missed school days each year. The rate of asthma in young children has risen by 160 percent in the past 15 years, and today one out of every 13 school-age children has asthma. Dr. Carmona is especially focusing on how unhealthy indoor environment affects children, as he promotes 2005 as The Year of the Healthy Child.

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Note: All HHS press releases, fact sheets and other press materials are available at http://www.hhs.gov/news.

Last Revised: January 12, 2005

ORS 332.341[1]

Provision of information to school districts about elevated levels of radon

(1) The Oregon Health Authority shall disseminate information related to elevated levels of radon to each school district in this state. Information disseminated under this section must include:

(a) Information about radon and the dangers associated with elevated levels of radon;

(b) The level of radon at which the United States Environmental Protection Agency recommends schools take action to reduce indoor radon concentrations;

(c) Processes by which schools may be tested for elevated levels of radon; **and**

(d) Model plans developed pursuant to ORS 332.345 (Tests of schools for elevated levels of radon).

(2) Dissemination of information under subsection (1)(c) of this section must take into account industry standards for testing buildings for elevated levels of radon.

(3) Upon request, the State Board of Education shall assist the authority in disseminating the information described in this section. Dissemination of information may occur by any reasonable means, including posting the information on a website maintained by the authority or the Department of Education and providing each school district with instructions on how to access the information. [Formerly 332.166]

Note: 332.341 (Provision of information to school districts about elevated levels of radon) and 332.345 (Tests of schools for elevated levels of radon) were enacted into law by the Legislative Assembly but were not added to or made a part of ORS chapter 332 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

[1] Legislative Counsel Committee, *CHAPTER 332—Local Administration of Education*, https://www.oregonlegislature.gov/bills_laws/ors/ors332.html (2019) (last accessed May 16, 2020).

Currency Information

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. IR-20-2439A

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

* 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