SAFETY AND HEALTH INVESTMENT PROJECTS
FINAL REPORT

Hazard Assessment, Mitigation and Training for Workers Exposed to Residential Sewage
Assigned SHIP Grant #: 2013XA00224
May 28, 2013 – July 31, 2014

John Thomas
executivedirector@wossa.org

July 31, 2014

John Thomas
Executive Director
WOSSA

Washington State Department of Labor & Industries
Division of Occupational Safety and Health

Funding and support for this project has been provided by the State of Washington, Department of Labor & Industries, Safety & Health Investment Projects.

[Grantee] is solely responsible for the content of and views expressed in this report and related materials unless they have been formally endorsed by the Washington State Department of Labor and Industries.

PART I

Narrative Report

Organization Profile:

For awarded organizations, to include partners and collaborators, provide a brief description of each organization. Mission, vision, and purpose for each of the organizations who applied (this includes partners and collaborators) for the grant.

The Washington Onsite Sewage Association is a non-profit industry organization with a primary focus on education of industry practitioners established in 1990. This includes Designers, Regulators, Installers, Operations and Maintenance, System Inspectors and Pumpers that find work in this industry. With over 400 member companies, it represents a significant portion of the working industry and since the start of the Association Training center in 1996, WOSSA has been the primary source of education resources for service providers in the industry and is recognized by the State DOH, DOL and Local Health Jurisdictions in this role.

Abstract:

Present a short overview of the nature and scope of the project and major findings (less than half a page).

Pathogens in Wastewater have been well documented for many years. Up until now, studies and research on pathogen exposure to wastewater workers has been limited to Wastewater Treatment Plant Operators. OnSite system service providers have had little to no direct review of the pathogens that they are exposed to or to changes of exposures to new and distinct pathogens previously unknown (MRSA).

Further, because of the limited resources of small business practitioners, development and implementation of appropriate workplace mitigation has been limited or non-existent. As a result of the lack of research or central study of pathogen exposure to workers in the OnSite industry, no central resource or education exists to address awareness, education and workplace evaluation tools to address actual pathogen exposures, risk assement models, safety management planning and implementation of procedures to address evaluation of work procedures or identification of appropriate PPE to mitigate risk.

Purpose of Project:

Describe what the project was intended to accomplish.

The deliverables of this project were to identify and quantify the actual Pathogen Exposures to concentrated human waste. Develop and deliver an educational resource that would be delivered at no cost to the industry that would:

- Identify the actual pathogen exposures through field sampling and laboratory testing
- Assess current practice, PPE use through field observation
- Develop distinct safety management tools to manage the workplace (APP)
- Create JSA assessements of risk for common job tasks by industry segment
- Evaluate and recommend appropriate PPE to mitigate exposure
- Develop and deliver a training resource to companies and workers in the Onsite Industry in Washington.

Statement and Evidence of the Results:

Provide a clear statement of the results of the project include major findings and outcomes and provide evidence of how well the results met or fulfilled the intended objectives of the project.

All objectives of the project have been met or exceeded and delivered on-time and under budget.

During the study period, over 200 lab tests were done on field samples of wastewater from SFR and light Commercial onsite waste water systems was conducted, including replicate sampling at comparative sites.

This allowed verification of common practice of common work tasks and similar results against specific job tasks conducted by multiple companies and certification levels. A total of 10 different companies, certified for Installation, Pumping, Operations and Maintenance and OSS Inspectors along with 31 individuals participated in the study.

Using the results of the field study and observations, pathogen exposures were validated and work tasks for current practice and existing PPE were evaluated.
"Best practice" recommendations for workers that included JSA analysis and review and recommendations for miminum PPE by job task. Safety management and AAP (accident prevention planning) was incorporated into the training that was completed during the cycle.

The deliverable called for 4 classes to be delivered to industry participants that operate in Thurston, Pierce and Kitsap LHJ (local health jurisidictions). WOSSA delivered **8** classes to 123 industry owners, employees certified and working these jurisdictions, that included representation of all industry segments: Regulatory Staff, Designers, Installers, O&M professionals, Inspectors and Pumping companies.

Course evaluations were completed by participants at the end of each session and course improvements and messaging were incorporated into each successive version. Documentation detailing the process and outcomes are incuded in previously submitted milestone reports addendums in this final report.

Measures to Judge Success:

If relevant, state what measures or procedures were taken to judge whether/ how well the objectives were met and whether the project or some other qualified outside specialist conducted an evaluation.

Literature Review

A comprehensive literature review was undertaken to evaluate existing information on pathogen exposures to OSS workers and this industry, for application to individual industry segment. We found much data on pathogens relating to wastewater, pathogen exposures to

Wastewater treatment plant operators and some safety related procedures but found no body of information on wastewater and pathogen exposure to workers in the OSS industry. We gleaned what was available and incorporated it into our outcomes, but understood very early that the effort that was being undertaken by this grant was going to be a completely new study to the field and development of best practice, mitigation of pathogen exposures to common job tasks conducted in the installation, repair and maintenance of OSS in WA.

Actual lab analysis and results validated the known exposures (pathogens) common in all sewage, but also identified additional exposure previously undocumented such as MRSA and "rare molds" and families of bacteria that included strains for Chlamydia successfully captured as airborne transmission and grown as lab cultures.

As a result, the documentation provided in the field studies and subsequent sample testing will be a basis for future work by others.

Wastewater Field Sampling and Field Observations of Work Tasks

WOSSA Staff oriented and worked with three different sampling laboratories. Controls were established and conducted on various field samples taken and replicated on subsequent sampling. Cross checks were conducted on Lab analysis to verify the field sampling techniques for cross contamination and also blind controls to confirm testing protocols between different laboratories. At several points during the field sampling, WOSSA met with Lab Staff to ensure sampling protocols were being met and to validate the results. WOSSA also met with Matt Lee, Aquatest Inc., who has both a practical experience application of pathogen knowledge from his education and degree from UC Davis, CA as part of the in-kind contribution of the project. During the duration of the field testing, over 200 field samples were taken including fluid, contact and plate tests for various pathogens (A sampling of lab results are included in the appendix.)

Over the period of the grant, opportunities were identified that allowed us to observe common work and maintenance tasks across a wide range of system types, Components, regulatory infrastructure (that had an impact on exposure and exposure frequency for operators), Certified professionals, Service Company Size, Management styles and peer pressure on individuals in the workforce. The Association's long relationship of education and support with the industry allowed us to include an introspection that added value to the focus of the study.

Education Resource Development and Delivery

This understanding of individual industry turn over in addition to the applied knowledge of the field observations allowed us to better develop the message and introduce a practical approach to mitigation of pathogen exposures for OSS workers that are achievable for small companies with limited financial or dedicated staff resources not previously available. In addition to the objective hazards and mitigation identified through PPE selection and use, our approach has also allowed us discernment of many of the issues that management and workers face to rationalize use, compliance and exposures to the workplace and address in the training resource.

During the cycle of the grant, WOSSA was able to effectively coordinate the outreach, notification and delivery of 8 training events to 123 attendee's representing over 73 small business in the intial education outreach effort.

The number of training events exceeded the grant milestone requirements by 100% at no additional cost to the intial funded project.

Further, the Association will continue to utilize this training resource as part of our annual curriculum and conference subject matter based on the feedback received from participants in our post course evaluation survey's.

It is interesting to note that from virtually every class held, at least one person indicated that "this topic and training should be made mandatory for all industy professionals".

Another opportunity for the use of this resource may be to coordinate with LHJ's (Local Health Jurisdictions) that have continuing CEU requirements, to add this course work as mandatory for certified practitioners. Since this curriculum will be available as an ongoing part of the annual training schedule at WOSSA, LNI may also avail itself as "remediation" requirements of any future employee or company claims for work related illness or injury.

WOSSA intends to pursue delivery or access to the training material to NOWRA (National Onsite Wastewater Association) for distribution to their 20 plus state Affiliate Eduation Programs and anticipate this program will ultimately have a national impact.

LNI Technical Staff

At each milestone, WOSSA staff met with LNI SHIP grant staff to review progress of milestone deliverables. The LNI Technical Specialist for the grant, reviewed educational resources during development, advised on interpretation of rule. The Grant administrator and Technical advisor attended an education event to evaluate presentation, presentor technique, class participant involvement and interaction.

Relevant Processes and Lessons Learned:

Specify all relevant processes, impact or other evaluation information which would be useful to others seeking to replicate, implement, or build on previous work

AND

Provide information on lessons learned through the implementation of your project. Include both positive and negative lessons. This may be helpful to other organizations interested in implementing a similar project.

Field study and sampling procedures validated the pathogen exposure and most likely current vector pathways for exposure, use of multiple testing lab's allowed for verification of testing to known protocols.

Similar field observation techniques, new technology applications and evolution of new strains of "superbugs" would benefit from the initial strategies and approaches used in the study.

Transport and service equipment will change in the future and new modes of vector transport and exposures may be indentified.

Advancement in PPE product development may also be evaluated as changes in the environment of the OSS systems demand new levels of protection and determination of applicable issues of "fit for use" evolve.

Lesson Learned

Positives:

Communication with participating companies to the scope of their participation and ensurance that anonymity if desired would be maintained in the reporting, was an important concept to ensure support and participation of field studies. Helping these companies understand that the field observation and sampling would not interfere or slow down their worker in his/her task helped lower resistance to participation. Allowing the incentive for CEU credit was an important issue for many of the participating companies and individuals and needed additional effort with seeking approval from the LHJ's to agree that the course content was acceptable for the industry segment CEU requirement. Having a very good working relationship with the state DOH and LHJ's was a benefit in accomplishing this for the purpose of the outcomes. Having the organizational experience of educational resource development and thousands of hours in training experience greatly facilitated the development and transition of the education deliverable and allowed us to exceed rather than just simply meet the minimums of the grant. As a result, we not only were able to double the frequency of the training events, we also were able to develop a full 8 hour and an abbreviated 4 hour program that was approved by all of the LHJ's (Local Health Jurisdictions) for their CEU requirements on industry.

Negatives:

Understanding the limits of testing with laboratory procedures became evident early on in the sampling and results review. While the learning curve was fairly steep, we were able to utilize external networking by the grant administrators to identify additional lab testing facilities with greater ability to quantify the identification of specific pathogens that we were seeking to validate. The addition of the testing through the hospital, however also gained us access to the perspectives of the health care industries approach to exposures and mitigation to pathogens common to both industries.

Scheduling field work was often problematic. Our ability to schedule field days for observation and sampling was confounded somewhat by how companies get work. While they do the best they can to "schedule" pump out's, inspections and associated work, more than half the call outs for work they get are received on the same day and scheduled with the field operator "on the fly". To accommodate this and coordinate the various phases or sampling that we needed to accomplish, we had to commit to full days in the field, often not knowing if we were going to get 1 project or 4.

Recognition and rationalization of the hazard by a number of business owners and field employee's was found and anticipated. This was anticipated as attitudes in the industry are long seated. "I've been working in this industry for 30 years….and haven't died yet!" was heard from several service providers. As often, after a class we would have someone come up to the instructor privately and share a personal experience about a contamination exposure that involved, MRSA, Hepatitus, "poop flu" or other conditions such as Pink eye that went unreported. We have devoted an element of the training to "attitude" and perception of risk and the decision tree for individual choices for PPE.

Product Dissemination:

Outline of how the products of the project have been shared or made transferrable.

Work books were developed and distributed to class participants and included the PowerPoint presentation, detail of common injury and safety planning resources and worked examples of JSA specific to the OSS industry segment and common job tasks. Blank forms were provided for continuation of JSA development that would be more specific to individual and varied small business company models (i.e. Designers who also do O&M Inspections, Installers who do both new OSS construction and OSS Repair in contaminated work sites).

Feedback:

Provide feedback from relevant professionals, stakeholder groups, participants, and/ or independent evaluator on the project.

Each class participant was provided with an opportunity to provide feedback on course content, presentation method, presenter, applicability to them individually in their present postion and open comment feedback on the program overall (A sampling of course evaluations and feedback from participants are included in the appendix).

Project's Promotion of Prevention:

Explain how the results or outcomes of this project promote the prevention of workplace injuries, illnesses, and fatalities?

By raising awarenss to the various pathogen exposures identified in the field testing, individuals will make better choices of PPE and with their use, reduce workplace illness potential. Additionally, practical application of course resource materials will allow small business owners to develop or strengthen existing Accident Prevention Plans and compliance issues with employee's.

Uses:

How might the products of your project be used within the target industry at the end of your project?

Is there potential for the product of the project to be used in other industries or with different target audiences?

This training resource will be an effective training tool for 10 plus YEARS. With an industry turnover of at least 25% annually for this level of targeted participant, it will become a permanent offering into the WOSSA curriculum into the forseeable future. In addition, we are making arrangements now to have it be available to the National Onsite Wastewater Association for distribution nationwide to their affiliate (state) organizations, we also anticipate that this program will be presented at the National Pumper Expo in the next two years, with 15,000 plus attending and have a national impact on raising awareness to these exposures in the wastewater industry.

There is some possibility for applied use with modifications of the training resource, to the sewer (construction) industry and fixed, wastewater treatment plant employees.

Additional Information

Project Type

- ☒ Best Practice
- ☐ Technical Innovation
- ☒ Training and Education Development
- ☐ Event
- ☐ Intervention
- ☐ Research
- ☐ Other (Explain):

Target Audience: Small Business OSS Service Industry and Gov't.: LHJ Regulatory, Designers, Installation/Construction, Operations and Maintenance/Inspectors for Decentralized Wastewater Systems

Languages: English

Industry Classification (check industry(s) this project reached directly)

- ☐ 11 Agriculture, Forestry, Fishing and Hunting
- ☐ 21 Mining
- ☐ 22 Utilities
- ☒ 23 Construction
- ☐ 31-33 Manufacturing
- ☐ 42 Wholesale Trade
- ☒ 44-45 Retail Trade
- ☐ 48-49 Transportation and Warehousing
- ☐ 51 Information
- ☐ 52 Finance and Insurance
- ☐ 53 Real Estate and Rental and Leasing
- ☐ 54 Professional, Scientific, and Technical Services
- ☐ 55 Management of Companies and Enterprises
- ☒ 56 Administrative and Support and Waste Management and Remediation Services
- ☐ 61 Educational Services
- ☐ 62 Health Care and Social Assistance
- ☐ 71 Arts, Entertainment, and Recreation
- ☐ 72 Accommodation and Food Services
- ☒ 81 Other Services (except Public Administration)
- ☐ 92 Public Administration

Please provide the following information - - *(information may not apply to all projects)*

# classes/events:	8
# hours trained	52
# companies participating in project	68
# students under 18	0
# workers	163
# companies represented	68
# reached (if awareness activities)	163
Total reached	163

List, by number above, industries that project products could potentially be applied to.

4

Potential impact (in number of persons or companies) after life of project?

2,000

Have there been requests for project products from external sources? No

If Yes, please indicate sources of requests:

PART II

Financial Information
Budget Summary

Project Title:	Hazard assessment, mitigation and training for workers exposed to residential sewage.		
Project #:	2013XA00224	**Report Date:**	July 31, 2014
Contact Person:	John Thomas	**Contact #:**	253.770.6594
Start Date:	May 28, 2013	**Completion Date:**	July 31, 2014

1.	**Total original budget for the project**	$ 178,001.00
2.	**Total original SHIP Grant Award**	$ 138,005.00
3.	**Total of SHIP Funds Used**	$ 135,043.74
4.	**Budget Modifications (= or - if applicable)**	$ - 2,961.26
5.	**Total In-kind contributions**	$ 59,271.00
6.	**Total Expenditures (lines 2+4+5)**	$ 194,314.74

Instructions:

- Complete the Supplemental Schedule (Budget) form first (on the next page).
- The final report must include all expenditures from date of completion of interim report through termination date of grant.
- Indicate period covered by report by specifying the inclusive dates.
- Report and itemize all expenditures during specified reporting period per the attached supplemental schedule.
- Forms must be signed by authorized person (see last page).
- Forward one copy of the report to **Project Manager Name, SHIP Project Manager** at **PO Box 44612, Olympia, WA 98504-4612**

PART II *(Continued)*

Financial Information
Supplemental Schedules (Budget)

Project Title:	Hazard assessment, mitigation and training for workers exposed to residential sewage.		
Project #:	2013XA00224	**Report Date:**	July 31, 2014
Contact Person:	John Thomas	**Contact #:**	253.770.6594
Total Awarded:	$138,005.00		

ITEMIZED BUDGET: How were SHIP award funds used to achieve the purpose of your project?

	Budgeted for Project	Amount Paid Out	Difference
A. PERSONNEL	$98,676.00	$103,866.00	-$5,190.00

Explanation for Difference and other relevant information:

As additional potential pathogens and virus' were identified through testing, industry interviews and training feedback, we incorporated additional testing for presence/absence of exposures. This allowed for a more comprehensive evaluation of these potential workplace exposures.

In Milestone 2 we submittied a modification request of travel costs and transfer to the "Other" category in our budget. This allowed for more lab testing of field specimens to additional pathogens. We adjusted from this transfer an amount in "Personnel" to cover the cost of management of the sample (collection, delivery, report review and administrative costs), to the grant.

We also submitted a modification request during Milestone 5 for the "Publications" budget, transferring funds once again to the "Other" category in our budget. This allowed for further lab testing of field specimens to additional pathogens. We also adjusted from this transfer an amount in "Personnel" to cover the cost of management of the sample (collection, delivery, report review and administrative costs), to the grant.

	Budgeted for Project	Amount Paid Out	Difference
B. SUBCONTRACTOR	N/A	N/A	N/A

Explanation for Difference and other relevant information:

N/A

	Budgeted for Project	Amount Paid Out	Difference
C. TRAVEL	$8,009.00	$3,579.84	$4,429.16

Explanation for Difference and other relevant information:

In the initial round of field observation and testing we realized that we were not going to need the full amount of funding within the travel budget as estimated. We were able to consolidate our testing to certain areas within the state reducing the amount of travel

necessary.

In Milestone 2 we submittied a modification request of travel costs and transferred it to the “Other” category in our budget. This allowed for more lab testing of field specimens to additional pathogens. We adjusted from this transfer an amount in "Personnel" to cover the cost of management of the sample (collection, delivery, report review and administrative costs), to the grant. Due to the size of the articles and information being produced for WOSSA's Pipeline Magazine we are transfering a portion of the travel budget to the "Publication" category.

	Budgeted for Project	Amount Paid Out	Difference
D. SUPPLIES	$2,700.00	$2,700.00	$0
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
E. PUBLICATIONS	$17,620.00	$10,430.00	$7,190.00

Explanation for Difference and other relevant information:

Due to the size of the articles and information being produced for WOSSA's Pipeline Magazine, during Milestone 2 we transfered a portion of the travel budget to the "Publication" category.

During Milestone 5 we also submitted a modification request of the "Publications" budget and transfer to the “Other” category in our budget. This allowed for more lab testing of field specimens to additional pathogens. We also adjusted from this transfer an amount in "Personnel" to cover the cost of management of the samples (collection, delivery, report review and administrative costs), to the grant.

Due to the training documents being continuously edited with new information as we learned more about wastewater workers exposure to pathogens, WOSSA was willing to print materials for additional upcoming classes at no cost to the grant. This helped keep the manuals from becoming obsolete from traing class to training class.

	Budgeted for Project	Amount Paid Out	Difference
F. OTHER	$11,000.00	$14,467.90	-$3,467.90

Explanation for Difference and other relevant information:

As additional potential pathogens and virus’ were identified, we incorporated additional testing for presence/absence of exposures and allow for a more comprehensive evaluation of workplace exposures and back checking of current findings. These findings became a part of the final document and will become a part of future printed training materials. We were able to make changes within other budgets to transfer funds to for further lab testing.

	Budgeted for Project	Amount Paid Out	Difference
TOTAL DIRECT COSTS	$138,005.00	$135,043.74	$2,961.26
	Budgeted for Project	Amount Paid Out	Difference
TOTAL INDIRECT COSTS	N/A	N/A	N/A
	Budgeted for Project	Amount Paid Out	Difference
TOTAL SHIP BUDGET	$138,005.00	$135,043.74	$2,961.26

	Budgeted for Project	Amount Paid Out	Difference
G. IN-KIND	$39,996.00	$59,271.00	$19,275.00

Explanation for Difference and other relevant information:

Upon starting this project we underestimated the level of participation we would receive from the WOSSA Board, WOSSA Members and Industry Professionals. This added review and guidance regarding pathogen exposure, pathogen testing and training materials was encouraged by WOSSA and its staff. The input from these individuals helped to provide an end product that has been accepted very well within the onsite industry within the State of Washington.

I hereby certify that the expenditures listed on this report were made with my approval:

Date

Signature of Project Manager

PART III
Attachments:

Provide resources such as written material, training packages, or video/ audio tapes, curriculum information, etc. produced under the grant.

Also include copies of publications, papers given at conferences, etc.

This information should also be provided on a **CD** or **DVD** for inclusion in the file.

Appendix – A: Evaluations

Appendix – B: Lab Tests

REMINDER!!: All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.

PART III
Attachments: Appendix – A: Evaluations

WOSSA **Safety in the Workplace - Pathogens: 05.17.14**

Name of Attendee: RANDY OXIER

Company: EXPRESS SEPTIC SERVICE

Address: P.O. BOX 1938

Tel: 253-851-9925

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

THIS CLASS SHOULD BE MANDATORY FOR EVERY PERSON IN OUR INDUSTRY. PERIOD!

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: HEATH, MICHAEL

Company: EVERGREEN ONSITE

Address: _____

Tel: _____

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	5	(4)	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	5	(4)	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	5	(4)	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	5	(4)	3	2	1
6.) The content was clear and easy to understand.	5	(4)	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	5	(4)	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	5	(4)	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

- GOOD CLASS - SHOULD BE A MANDITORY CLASS FOR ALL.
- CLASS SEEMED TO TANGENT ON PHYSICAL DANGERS TO MUCH (CRUSH INJURIES VS. BIOLOGICAL DANGERS).

WOSSA **Safety in the Workplace - Pathogens: 05.22.14**

Name of Attendee: GREG BUSCH

Company: GB UNDERGROUND

Address: 1131 MORGAN RD. BREMERTON, WA 98312

Tel: (360) 731-3164

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

SHOULD BE REQUIRED COURSE FOR PEOPLE ENTERING THE INDUSTRY.

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Brad Davis

Company: Evergreen On Site

Address: PO Box 1179 LK Stevens 98258

Tel: 425-478-7309

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

- good class.
- Something should be mandatory for all that work in this profession.

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Paula Johnson

Company: Grace Property Solutions

Address: 171 E. Vuecrest Dr
Union, WA 98592

Tel: (360) 490-1914

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	5	(4)	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	5	(4)	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	5	(4)	3	2	1
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STRUCTURE					
6.) The presentation methods were effective.	5	(4)	3	2	1
7.) The visual aids, handouts or notes were Effective.	5	(4)	3	2	1
8.) The length of training and each session was About right.	5	(4)	3	2	1
9.) The training encourages participation.	5	(4)	3	2	1

COMMENTS

Please comment on any other aspects of the training

Great class to raise awareness.
I will be implementing a few changes to my field work routine on repair jobs.

Thank you.

(Oh, and thanks for the free ($0) class. :)

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Joycelyn Johnson

Company: ARROW Septic Designs

Address: 230 E. WARREN DR.

Tel: (360) 898-2255

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	5	(4)	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	5	(4)	3	2	1
9.) The training encourages participation.	5	(4)	3	2	1

COMMENTS

Please comment on any other aspects of the training

Very well presented. Made me more aware of being concientious of safety on job as I redesign many failed systems

Thank you

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Anthony Frandanisa

Company: A Advanced Septic

Address: 11603 Canyon Rd E

Tel: (253) 435-9999

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

I enjoyed the [redacted] training + pulled great information from the course that I will take to the [redacted] field.

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: JOSEPH BELL

Company: A-ADVANCED SEPTIC

Address: 11603 CANYON RD. E. PUYALLUP, WA. 98373 6

Tel: 253-435-9999

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number).

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

J.T. & CHUCK PRESENTED A MORE THAN "DOWN TO EARTH" APPROACH ON BACTERIA AND PATHOGENS. THEY DIDN'T HAVE TO USE A BUNCH OF ATTORNEY MUMBLE JUMBLE TO GET THE POINT ACCROSS. ALL RESULTS OF PICTURES, SLIDES AND SAMPLES TAKEN AND TESTED, WERE MORE THAN INFORMATIVE ON THE FIELD SIDE OF DAY TO DAY OPERATIONS WITHIN THE SEPTIC AND SEWAGE INDUSTRY.

WOSSA **Safety in the Workplace - Pathogens: 05.17.14**

Name of Attendee: Tami Bennett

Company: A Sound Environment

Address: PO Box 1031, Puyallup

Tel: (253) 405-1306

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

Very good presentation

WOSSA **Safety in the Workplace - Pathogens: 05.17.14**

Name of Attendee: CLARK WILCOX

Company: AARDVARK DESIGN

Address: POB 126 KEYPORT, WA 98345

Tel: 360-697-7582

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

EXCELLENT AND THANK YOU!

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Jeremiah Gunia

Company: A Advanced Septic

Address: 11603 Canyon RD E

Tel: 253 273- 4612

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

This is the first all 5's I have ever givin.

WOSSA **Safety in the Workplace - Pathogens: 05.22.14**

Name of Attendee: SILAS OLIVETO

Company: CLEAR SEPTIC SOLUTIONS

Address: PO BOX 1802, SILVERDALE 98383

Tel: 360-698-4400

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

VERY GOOD JOB... I ENJOYED THIS TOPIC!

WOSSA Safety in the Workplace - Pathogens: 06.05.14

Name of Attendee: Heather Church

Company: Bainbridge Septic Tank Pumping

Address: P.O. Box 10699
Bainbridge Is., WA 98110

Tel: 206-842-2564

Location of Training: Poulsbo Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	(5)	4	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	5	(4)	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

very well done. Thank you.

Heather Church

WOSSA Safety in the Workplace - Pathogens: 02.15.14

Name of Attendee: Robert Leach

Company: NW Cascade / FloHawks

Address: _____

Tel: 253.312.4478

Location of Training: Puyallup Instructor(s): John Thomas

Use the following scale and rate the statements below and if necessary suggest ways to improve the training. (Circle the appropriate number)

CONTENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I understand that I may be exposed to pathogens in my daily work activities.	(5)	4	3	2	1
2.) The material learned was what I needed in order to protect myself from potential wastewater risks.	5	(4)	3	2	1
3.) The training helped me understand important information or develop necessary skills to protect myself from pathogen risks.	(5)	4	3	2	1
4.) The depth of the training satisfied the need for The skill level required for PPE use.	(5)	4	3	2	1
5.) I am more likely to utilize fit for use PPE's when appropriate.	(5)	4	3	2	1
6.) The content was clear and easy to understand.	(5)	4	3	2	1
STRUCTURE					
6.) The presentation methods were effective.	(5)	4	3	2	1
7.) The visual aids, handouts or notes were Effective.	(5)	4	3	2	1
8.) The length of training and each session was About right.	(5)	4	3	2	1
9.) The training encourages participation.	(5)	4	3	2	1

COMMENTS

Please comment on any other aspects of the training

Enjoyed the hand & classroom format.

PART III
Attachments: Appendix – B: Lab Tests

LABORATORIES INC.
1515 80th St. E.
Tacoma, WA 98404
(253) 531-3121

uly 24, 2013

Washington Onsite Sewage Association
PO Box 9279
Tacoma, WA 98490
Attn: John Thomas

Dear Sir:

Results of analysis of two wastewater samples taken by you on 07-16-13 and received on 07-16-13 at 3:30 p.m. are as follows:

Sample Identification	*Salmonella* Species (MPN per 100 mLs)	*Escherichia coli* (per 100 mLs)
Puyallup Trailer Park Tank Pumped Prior Day 9:30 a.m.	< 1*	75,000
KC SFD, 3BR Septic Tank #2 12:30 p.m.	< 1*	> 160,000*

* < is less than
> is greater than

Lab Numbers: 08953948 and 08953949

Samples were analyzed according to Standard Methods for the Examination of Water and Wastewater, 21st Edition and AOAC Official Methods of Analysis, 15th Edition.

Chain of custody record is enclosed.

Sincerely,

Diane DuMond
Microbiologist

7/16/13

DD:bh
nclosure

R:\COMM\WASHINGTONONSITESEWAGEASSOC7-16a

MANAGEMENT LABORATORIES INC.

1515 80th St. E.
Tacoma, WA 98404
(253) 531-3121

July 29, 2013

Washington Onsite Sewage Association
PO Box 9279
Tacoma, WA 98490
Attn: Chuck Ahrens

Dear Sir:

Results of analysis of one swab sample taken by you on 07-22-13 at 9:30 a.m. and received on 07-22-13 at 10:30 a.m. are as follows:

Sample Identification:

Pump Truck Equipment
Back of Truck Under Repair

Tests	**Results**
Generic *Escherichia coli* (per swab)	3,600
Salmonella Species (per swab)	Absent

Lab Number: 08954226

Sample was analyzed according to AOAC Official Methods of Analysis, 15th Edition.

Chain of custody record is enclosed.

Sincerely,

Diane DuMond
Microbiologist

DD:bh
enclosure

7/22

R:\COMM\WASHINGTONONSITESEWAGEASSOC7-22b

MANAGEMENT LABORATORIES INC.

1515 80th St. E.
Tacoma, WA 98404
(253) 531-3121

August 6, 2013

Washington Onsite Sewage Association
PO Box 9279
Tacoma, WA 98490
Attn: John Thomas

Dear Sir:

Results of analysis of one wastewater sample taken by you on 07-30-13 at 11:00 a.m. and received on 07-30-13 at 4:20 p.m. are as follows:

Sample Identification:	**Mixed Effluent**
Tests	**Results**
Escherichia coli 0157:H7 (per mL)	< 45*
Salmonella Species (MPN per 100 mLs)	< 1*

* < is less than

Lab Number: 08955055

Sample was analyzed according to AOAC Official Methods of Analysis, 15th Edition.

Chain of custody record is enclosed.

Sincerely,

Diane DuMond
Microbiologist

DD:bh
enclosure

R:\COMM\WASHINGTONONSITESEWAGEASSOC7-30d

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **PUYALLUP,SFR**
MR#: WOSSA-808131 AGE: 48Y 01/01/1965 Reprinted Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

08/08/13 Culture/Gram Stain
Coll Time ACC. NO.: H56609 Final 08/13/2013
\+ 1500 Specimen Description: Fluid
Special Requests: sewage study, fx 253.770.0896. r/o MRSA

Culture Results: 1. Many mixed gram positive organisms including mixed types of Bacillus species and mixed Coagulase negative staph.

08/08/13 MRSA Culture Screen
Coll Time ACC. NO.: H57745 Final 08/12/2013
\+ 1500 Specimen Description: Fluid
Special Requests: SEWAGE STUDY

Culture Results: 1. No MRSA isolated

LABORATORIES Northwest
Tacoma, WA 98415

NAME: HERITAGE BANK,COMMERCIAL
MR#: WOSSA-808132 AGE: 48Y 01/01/1965 SEX: M

Interim Report
LOC: WOSSA

H56631 COLL: 08/08/2013 15:00 REC: 08/08/2013 18:28 PHYS: Miscellaneous MD

Culture/Gram Stain
SETUP: 08/08/2013 2056

Specimen Description	Fluid
Special Requests	sewage study, fx 253.770.0896. r/o MRSA.
Culture Results	Many mixed organisms including few mixed types of coliforms, mixed coagulase negative staph, diptheroids, Bacillus species, and rare mold.
Report Status	Final 08/12/2013

H57747 COLL: 08/08/2013 15:00 REC: 08/08/2013 18:20 PHYS: Miscellaneous MD

MRSA Culture Screen
SETUP: UNKNOWN

Specimen Description	Fluid
Special Requests	SEWAGE STUDY
Culture Results	No MRSA isolated
Report Status	Final 08/12/2013

MANAGEMENT
LABORATORIES INC.

1515 80th St. E.
Tacoma, WA 98404
(253) 531-3121

August 13, 2013

Washington Onsite Sewage Association
PO Box 9279
Tacoma, WA 98490
Attn: John Thomas

Dear Sir:

Results of analysis of two swab samples taken by you on 08-08-13 at 2:00 p.m. and received on 08-08-13 at 2:40 p.m. are as follows:

Project: Heritage Bank Commercial Sewer Line Blockage

Sample Identification	Generic *Escherichia coli* (per swab)	*Escherichia coli* 0157:H7 (per swab)
NWC Cell	500	---
Jetter Glove	---	< 5*

* < is less than

Lab Numbers: 08956112 and 08956113

Samples were analyzed according to AOAC Official Methods of Analysis, 15th Edition.

Chain of custody record is enclosed.

Sincerely,

Diane DuMond
Microbiologist

DD:bh
enclosure

R:\COMM\WASHINGTONONSITESEWAGEASSOC8-8

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **WOODINVILLE,DF REPAIR**
MR#: WOSSA-816134
PHONE#:

AGE: 48Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

08/16/13 Culture/Gram Stain
Coll Time ACC. NO.: F36544 Final 08/18/2013
0100 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 297 0896 OR 253 770 0896

Culture Results:
1. Bacillus species, 3 colony types.
2. Gram negative rods , 2 colony types

NAME: **WOODINVILLE DF,REPAIR**
MR#: WOSSA-816131 AGE: 48Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

08/16/13 MRSA Culture Screen
Coll Time ACC. NO.: F36492 Final 08/17/2013
1045 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 770 0896

Culture Results: 1. No MRSA isolated

08/16/13 Enterovirus Culture
Coll Time ACC. NO.: F36493 Final 08/21/2013
1045 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 770 0896

Culture Results: 1. No Enterovirus including: Coxsackie A & B, Echovirus, Poliovirus or Enterovirus isolated in cell culture.

08/16/13 Giardia/Cryptospor
Coll Time ACC. NO.: F36494 Final 08/16/2013
1045 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 770 0896

Direct Ag Test: 1. Negative for Cryptosporidium and Giardia lamblia antigens by EIA

08/16/13 Feces culture
Coll Time ACC. NO.: F36495 Final 08/19/2013
1045 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 770 0896

Culture Results: 1. Negative for Campylobacter antigen or levels below the limit of detection for the assay.
2. No enteric pathogens identified, including Salmonella, Shigella, E. coli 0157:H7 or Yersinia.
3. No E coli that produces either Shiga toxin 1 or Shiga toxin 2 detected.

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **BUCKLEY SER,AADVANCED**
MR#: WOSSA-8221302 AGE: 6D 08/22/2013 Reprinted Report
PHONE#: SEX: U LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

08/22/13 MRSA Culture Screen
Coll Time ACC. NO.: H70791 Final 08/23/2013
\+ 1145 Specimen Description: Fluid
Special Requests: sewage study

Culture Results:
1. MRSA isolated
2. MultiCare Infection Control notified

08/22/13 Enterovirus Culture
Coll Time ACC. NO.: H70792 Final 08/26/2013
\+ 1145 Specimen Description: Fluid
Special Requests: sewage study

Culture Results:
1. No Enterovirus including: Coxsackie A & B, Echovirus, Poliovirus or Enterovirus isolated in cell culture.

08/22/13 Giardia/Cryptospor
Coll Time ACC. NO.: H70793 Final 08/22/2013
\+ 1145 Specimen Description: Fluid
Special Requests: sewage study

Direct Ag Test:
1. Negative for Cryptosporidium and Giardia lamblia antigens by EIA

08/22/13 Feces culture
Coll Time ACC. NO.: H70794 Final 08/25/2013
\+ 1145 Specimen Description: Fluid
Special Requests: sewage study

Culture Results:
1. Many Aeromonas species
2. No E coli that produces either Shiga toxin 1 or Shiga toxin 2 detected.
3. Negative for Campylobacter antigen or levels below the limit of detection for the assay.
4. No enteric pathogens identified, including Salmonella, Shigella, E. coli 0157:H7 or Yersinia.

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **YELM,SFR AT B**
MR#: WOSSA-530136
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

05/30/14 Feces culture
Coll Time ACC. NO.: F26676 Final 06/03/2014
0900 Specimen Description: Fluid
Special Requests: SEWAGE STUDY, FX 1 253 770 0279

Culture Results: 1. No growth 4 days

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **YELM,SFR AT T**
MR#: WOSSA-530137
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

05/30/14 Feces culture
Coll Time ACC. NO.: F26697
0900 Specimen Description: Fluid

Final 06/03/2014

Special Requests: SEWAGE STUDY, FX 1 253 770 0279

Culture Results:
1. Gram positive rods Resembling Bacillus species, not anthracis
2. Enteric Gram negative rods , colony morphotype 2
3. Gram positive rods Resembling Diphtheroids

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **KC,DUMPSITE**
MR#: WOSSA-530142

AGE: 49Y 01/01/1965
SEX: M

Interim Report
LOC: WOSSA

F23781 COLL: 05/30/2014 09:50 REC: 05/30/2014 14:00 PHYS: Miscellaneous MD

Feces culture
SETUP: UNKNOWN

Specimen Description	Feces
Special Requests	None
Culture Results	Gram positive rods Resembling Bacillus species, not anthracis Fungus grown in bacterial culture. Please contact Microbiology at 403-1113 to order fungus ID if necessary.
Report Status	Final 06/03/2014

NAME: **DUMP,SHELTON AT5**
MR#: WOSSA-530148
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Reprinted Report
LOC: HOLD

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

05/30/14 Feces culture
Coll Time ACC. NO.: F26726 Final 06/03/2014
\+ 1200 Specimen Description: Fluid
Special Requests: SEWAGE STUDY, FX 1 253 770 0279

Culture Results:
1. Rare Enteric Gram negative rods
2. Rare Gram Positive Cocobacillus
3. Fungus grown in bacterial culture. Please contact Microbiology at 403-1113 to order fungus ID if necessary.

NAME: **DUMP,SHELTON AT 10**
MR#: WOSSA-530134
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

05/30/14 Feces culture
Coll Time ACC. NO.: F26621 Final 06/03/2014
1200 Specimen Description: Fluid
Special Requests: SEWAGE STUDY, FX 1 253 770 0279

Culture Results: 1. Gram positive rods Resembling Bacillus species, not anthracis

NAME: **JT,572ORCAS**
MR#: WOSSA-530143
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- MISCELLANEOUS LAB INFORMATION ----------

05/30/14
0940 **Comment** RENTON ORCAS 572, DUMP TRUCK (PT) VENT

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

05/30/14 Feces culture
Coll Time ACC. NO.: F26576 Final 06/03/2014
0940 Specimen Description: Fluid
Special Requests: SEWAGE STUDY FX 253 770 0896

Culture Results: 1. No growth 4 days

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **RENTON,AT TANK**
MR#: WOSSA-619141
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 Culture/Gram Stain
Coll Time ACC. NO.: H7379 Final 06/21/2014
1230 Specimen Description: Fluid
Special Requests: sewage study

Culture Results: 1. 100 Colony forming units Mixed flora including Bacillus species and gram negative rods.

Client Services
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(800) 784-5854

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RENTON,AT TANK
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LABORATORIES Northwest
Tacoma, WA 98415

NAME: **RENTON,AT TRUCK**
MR#: WOSSA-619143
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 Culture/Gram Stain
Coll Time ACC. NO.: H7366 Final 06/22/2014
1230 Specimen Description: Fluid
Special Requests: Sewage study

Culture Results: 1. 10 Colony forming units Mixed bacterial flora including gram negative rods and Bacillus species

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RENTON,AT TRUCK
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LABORATORIES Northwest
Tacoma, WA 98415

NAME: **RENTON,AT20FEET**
MR#: WOSSA-619142 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 Culture/Gram Stain
Coll Time ACC. NO.: H7374 Final 06/22/2014
1230 Specimen Description: Fluid
Special Requests: sewage study

Culture Results: 1. No growth 3 days

Client Services
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RENTON,AT20FEET
DR: Miscellaneous MD

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **KCDUMP,AT TRUCK**
MR#: WOSSA-619144 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 Culture/Gram Stain
Coll Time ACC. NO.: H7320 Final 06/21/2014
1430 Specimen Description: Fluid
Special Requests: Sewage Study

Culture Results:
1. >100 Colony forming units Mixed bacterial flora including Bacillus species, Streptococcus species and Gram negative rods.
2. Too numerous to count

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **KCDUMP,WATER**
MR#: WOSSA-6191410 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 MRSA Culture Screen
Coll Time ACC. NO.: H7357 Final 06/21/2014
1330 Specimen Description: Fluid
Special Requests: Sewage study

Culture Results: 1. No MRSA isolated

06/19/14 Feces culture
Coll Time ACC. NO.: H7358 Final 06/23/2014
1330 Specimen Description: Fluid
Special Requests: Sewage study

Culture Results:
1. Moderate number of Aeromonas hydrophila/caviae
2. Negative for Campylobacter antigen or levels below the limit of detection for the assay.
3. No E coli that produces either Shiga toxin 1 or Shiga toxin 2 detected.
4. No other enteric pathogens isolated

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **KCDUMP,AT100FEET**
MR#: WOSSA-619145 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

06/19/14 Culture/Gram Stain
Coll Time ACC. NO.: H7343 Final 06/22/2014
1330 Specimen Description: Fluid
Special Requests: sewage study

Culture Results: 1. 4 Colony forming units Mixed bacterial flora, 4 colony types.

Client Services
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LABORATORIES Northwest
Tacoma, WA 98415

NAME: **WOSSA,ATATU**
MR#: WOSSA-710141
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30846 Final 07/14/2014
1100 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results: 1. mixed organisms Gram negative rods Yeast Gram positive coryneform rods

Client Services
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(800) 784-5854

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LABORATORIES Northwest
Tacoma, WA 98415

NAME: **EDGEWOOD,AT SOURCE**
MR#: WOSSA-710142 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30909 Final 07/14/2014
R1222 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results:
1. mixed organisms Gram negative rods Yeast
2. Fungus grown in bacterial culture. Please contact Microbiology at 403-1113 to order fungus ID if necessary.

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **EDGEWOOD,AT 10 FEET WIND**
MR#: WOSSA-710145 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30935 Final 07/14/2014
1100 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results:
1. mixed organisms Gram negative rods Bacillus species, not anthracis Staphylococcus species Yeast
2. Fungus grown in bacterial culture. Please contact Microbiology at 403-1113 to order fungus ID if necessary.

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **EDGEWOOD,AT 10 FEET**
MR#: WOSSA-710143 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30920 Final 07/14/2014
1100 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results:
1. mixed organisms Gram negative rods Yeast
2. Fungus grown in bacterial culture. Please contact Microbiology at 403-1113 to order fungus ID if necessary.

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **EDGEWOOD,AT 20 FEET**
MR#: WOSSA-710144
PHONE#:

AGE: 49Y 01/01/1965
SEX: M

Final Report
LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30925 Final 07/14/2014
R1225 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results: 1. mixed organisms Gram negative rods Bacillus species, not anthracis Presumptive Staphylococcus species

LABORATORIES Northwest
Tacoma, WA 98415

NAME: **EDGEWOOD,AT CONTROL**
MR#: WOSSA-710146 AGE: 49Y 01/01/1965 Final Report
PHONE#: SEX: M LOC: WOSSA

---------- FLDS, WOUNDS, MISC SPECIMENS ----------

07/10/14 Culture/Gram Stain
Coll Time ACC. NO.: H30945 Final 07/12/2014
R1228 Specimen Description: Fluid
Special Requests: 2 plates sewage study

Culture Results: 1. No growth 2 days

Client Services
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(800) 784-5854

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DR: Miscellaneous MD
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