

Lorraine M. Carrasquillo
City of Merced
1776 Grogan Avenue
Merced, CA 95341

March 10, 2016

Dear Ms. Carrasquillo

Pacific EcoRisk (PER) is very pleased to have this opportunity to respond to the City of Merced's (City) Request for Proposals (RFP) to provide NPDES permit compliance Bioassay Laboratory Services for the City's Wastewater Treatment Facility (WWTF). All information requested in the RFP is contained in the attached proposal.

I'd like to take this opportunity to highlight a few points, detailed throughout our attached proposal, that I believe separates PER from competing firms and demonstrates our firm's ability to accomplish the scope of services.

- ▶ Pacific EcoRisk is intimately familiar with the history of the City's NPDES compliance testing requirements since we have been providing identical services to those presented in the RFP since 2002.
- ▶ When you work with Pacific EcoRisk, you work with a firm that has a broad understanding of environmental issues. Pacific EcoRisk is an environmental consulting firm conducting research and testing in the fields of environmental toxicology, aquatic biology, and environmental chemistry. Our staff is comprised of 28 degreed scientists (B.S., M.S. and Ph.D.), and supported by approximately 22 technicians (most of whom are also degreed university graduates) and administrative support staff. Our clients include local, state and federal regulatory agencies, industry and agriculture, ports and marinas, POTWs, US military services, as well as support services for other environmental or engineering consulting firms.
- ▶ Pacific EcoRisk is open 7 days per week, 365 days per year. We are available to perform testing on almost any schedule.

We believe that our experience and commitment to performing high quality work will continue to make us a valued part of your NPDES compliance team, and we look forward to the opportunity to continue to work with you and your staff. If you have any questions regarding our proposal, please feel free to contact me at (707) 207-7766.

Sincerely,

Stephen L. Clark
Vice President

**PROPOSAL FOR
BIOASSY LABORATORY SERVICES
for the
City of Merced**

Submitted in Response to:

**City of Merced
Request for Proposals
Issued By Lorraine M. Carrasquillo
Water Quality Control Division**

Submitted by:

**Pacific EcoRisk
2250 Cordelia Road
Fairfield, CA 94534**

March 10, 2016



PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

PROPOSAL FOR BIOASSY LABORATORY SERVICES

City of Merced
Public Works Department
Water Quality Control Division

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- Attachment B Resumes of Key Project Staff
- Attachment C NELAP Accreditation Certificate
- Attachment D ELAP Accreditation Certificate
- Attachment E 2015 NELAP Audit Report
- Attachment F Proof of Existing Insurance
- Attachment G Certification of Good Faith



1. INTRODUCTION

This Proposal has been prepared in response to the City of Merced’s (City) request for proposals (RFP) pertaining to Bioassay Laboratory Services for the Merced Wastewater Treatment Facility (WWTF). This proposal was prepared per the RFP specified scope, form and content requirements. Specifically, this proposal includes:

- a profile of Pacific EcoRisk,
- statement of qualifications demonstrating Pacific EcoRisk’s ability to successfully perform the requested acute and chronic toxicity services,
- proposed scheme of work,
- references,
- acceptance of model contract and insurance requirements, and
- pricing tables and mandatory forms.

As detailed in the following sections, Pacific EcoRisk has over 20 years of experience performing the services described in the requested scope of work to the satisfaction of numerous clients. Moreover, Pacific EcoRisk has provided the City of Merced with similar toxicity testing service as those requested in the RFP since 2002. As the City’s current service provider, we look forward to the opportunity to provide continued exceptional service to City of Merced Water Quality Control Division.

2. COMPANY PROFILE

Pacific EcoRisk, Inc., founded in 1994 and incorporated in California in September 2001, is an environmental consulting firm conducting research and testing in the fields of environmental toxicology, aquatic biology, and environmental chemistry. Our staff is comprised of approximately 28 degreed scientists, 22 technicians (most of whom are also degreed university graduates), and three administrative support staff.

Pacific EcoRisk has considerable experience in the performance of water and sediment toxicity and bioaccumulation testing, fulfilling toxicity testing orders originating from across the nation. We have earned the respect and esteem of our clients, our auditors, and our peers through our consistent delivery of high quality, timely, and cost effective data and consulting services.

Areas of Specialization:	NPDES Whole Effluent Toxicity (WET) testing NPDES permit negotiation Water Effects Ratio studies (site-specific criteria) Toxicity Reduction Evaluations (TREs) Toxicity Identification Evaluations (TIEs) Title 22 “Hazardous Waste” toxicity testing Sediment and dredged material testing
Client Base:	Municipal, industrial, and MS4 stormwater NPDES dischargers



Agricultural dischargers and watershed monitoring organizations
Major and minor ports and marinas
US military services
Engineering and environmental consulting firms
Agrochemical and petrochemical manufacturers
Local, state, and federal regulatory agencies

Business Address: 2250 Cordelia Rd.
Fairfield, CA 94534
PH: 707-207-7760

Primary Contact: Brant Jorgenson, Ph.D.
Senior Project Manager
PH: 707-207-7779
Email: bjorgenson@pacificecorisk.com

Secondary Contacts: Stephen L. Clark
Vice President
PH: 707-207-7766
Email: slclark@pacificecorisk.com

Scott Ogle, Ph.D.
CEO
PH: 707-207-7762
Email: scottogle@pacificecorisk.com

3. STATEMENT OF QUALIFICATIONS

3.1 Technical Qualifications of Pacific EcoRisk's Project Team

The Project Management team of Dr. Brant Jorgenson, Dr. Scott Ogle, and Mr. Stephen Clark collectively bring ~80 years of toxicity testing and NPDES compliance experience to their management and oversight of projects as well as interpretation of data and regulatory permit compliance requirements. In addition, the Project Management team are expert at consulting with Regional Board staff regarding NPDES issues related to toxicity testing.

Dr. Brant Jorgenson is currently Pacific EcoRisk's assigned project manager to the City, and will continue in this position with Dr. Scott Ogle and Stephen Clark as assigned secondary contacts. Each project is also assigned a Project Lead to assist the Project Manager, whom directly oversees project specific laboratory testing, including day-to-day oversight of all testing activities being performed for the project. The assigned Project Lead will be Dr. Aaron



Edgington, who is currently serving as Project Lead for the City, thus ensuring continued expert familiarity with the City's bioassay testing needs. In addition, and integral to the generation of high quality and reliable toxicity monitoring data, Pacific EcoRisk employs a full-time laboratory QA Manager who oversees Pacific EcoRisk's quality program.

It is worth noting that the proposed project team is the same team that is currently providing routine and special study toxicity testing for the City's WWTF. An organization chart illustrating the project staffing is provided as Attachment A. Brief resumes for key staff are provided as Attachment B.

Familiarity with Central Valley NPDES Regulatory Setting

Pacific EcoRisk is very familiar with and on excellent terms with Central Valley Regional Water Quality Control Board staff, and has hosted seminars at the Pacific EcoRisk facility in which we have provided presentations to Regional Board staff on topics of bioassay test interferences and false positives and effective strategies to implementation of Toxicity Reduction Evaluations (TRE) and Toxicity Identification Evaluations (TIE). We routinely serve as technical experts to Regional Board staff, fielding technical questions from various staff not only for our clients, but for other regional water quality issues as well. The confidence and integrity we have engendered with Regional Board staff allows us to successfully negotiating permit amendments and concessions with Regional Board staff on behalf of our clients.

Interactions with Central Valley Clean Water Association

Pacific EcoRisk is an affiliate member of the Central Valley Clean Water Association (CVCWA), and is an active participant in CVCWA special studies (e.g., Regional Board Engagement on Toxicity Issues Special Project and Freshwater Mussel Special Project). Pacific EcoRisk has given presentations on topical issues of interest (e.g., identification of false positives) to CVCWA and CVCWA member agencies. Moreover, Pacific EcoRisk is very familiar with the CVCWA members, and provides acute and chronic toxicity testing for many CVCWA dischargers.

3.2 Lab Accreditation

The performance of high quality testing is a critical element for assuring that data meets the NPDES permit requirement. Consistent with our dedication to producing high quality test results, Pacific EcoRisk is the only aquatic toxicity lab in Northern California that is NELAP-certified. We perform the full suite of EPA acute and chronic toxicity tests with freshwater, estuarine, and marine test species, and also perform sediment toxicity and bioaccumulation tests under the rigorous NELAP quality program requirements. A copy of our NELAP certification and fields of testing (FOT) are provided as Attachment C. Although Pacific EcoRisk is fully NELAP accredited, we also maintain CA-ELAP accreditation; our ELAP certification and FOT are provided as Attachment D.



As testament to the quality of work being performed by our lab, during our most recent 4-day NELAP audit, the auditor stated that our lab's quality system was "*the best that he had ever seen*", and that in his 30 years of auditing labs, this was the very first time that he was unable to find even a single lab operation that required a corrective action. A copy of our most recent NELAP audit report is provided as Attachment E.

We would also like to bring your attention to the fact that as part of the Central Valley Regional Board's Irrigated Lands Regulatory Program (ILRP), the labs participating in the ILRP are subject to lab audits by USEPA. As the lab doing the majority of the ILRP work, our lab was selected to be the first, and a 2-day audit with two USEPA auditors and two Regional Board auditors took place in February 2009. We were very pleased to have received the USEPA's highest rating as a result of that audit; the USEPA's Whole Effluent Toxicity (WET) expert Dr. Debra Denton stated, "*Laboratory documentation and reporting is excellent*" and "*All of the tests performed for the ILRP have coefficients of variation that are far below the national average 75th percentile and 90th percentile.*"

3.3 Lab Hours

Pacific EcoRisk's laboratory is open 7 days a week, 365 days per year, including holidays. Pacific EcoRisk is not only open every day of the year, but we have specifically staffed our lab to assure that all mandatory functions are fully staffed every single day of the year, including holidays. Our client's tests receive onsite supervision by a fully trained and qualified Lab Manager and QA Manager every single day of the year. In addition, our 50+ staff allows assurance that the testing is appropriately completed by trained and qualified staff any day of the year.

3.4 Report Turn-Around Times and Immediate Notification Policy

Pacific EcoRisk's standard report turn-around time is 14 calendar days, which exceeds the RFP's required maximum turn-around time of 20 calendar days. There is no surcharge for this standard turn-around time. In addition, it is Pacific EcoRisk's standard practice to provide our clients, verbally or by e-mail, preliminary test results within approximately 48 hours of test completion. This early reporting of preliminary test results provides our clients ample opportunity to take necessary or prudent actions in advance of receipt of Pacific EcoRisk's formal report - it is the formal report upon which the Regional Board typically bases its laboratory notification requirements and associated permit deadlines (i.e., deadlines for retesting, notification of toxicity, initiation of accelerated monitoring, preparation of TRE Action Plans, etc.). With early provision of preliminary test results, additional time is provided to coordinate and implement follow up activities.



3.5 Proposed Scheme of Work for Toxicity Testing

Based upon our 14 years of providing testing services to the City, Pacific EcoRisk has developed the following scheme of work for the specific toxicity testing requested.

1. Testing Planning and Coordination

- 1.1 Pacific EcoRisk staff first will coordinate planned sample collection dates and test initiations with City staff. Any special or unique considerations will be discussed and confirmed at that time.
- 1.2 A "Sample Collection and Pick-Up Schedule" will be prepared by Pacific EcoRisk and emailed to City staff. This will also be provided to Pacific EcoRisk laboratory staff to ensure that sample pick-up is appropriately scheduled and any necessary pre-test activities are addressed.
- 1.3 Pre-cleaned sample containers are provided to the City at no charge prior to testing, along with partially filled chain-of-custody forms.

2. Sample Pick-Up

- 2.1 Pacific EcoRisk staff will arrive at the WWTF at the scheduled time, and will bring a sample "kit" that includes ice chest, ice (or 'blue ice'), and a temperature blank for the ice chest.
- 2.2 The sample will be transported to the Pacific EcoRisk lab within the method specified 36-hour sample hold time.

3. Sample Receipt

- 3.1 Upon receipt at the testing lab, the sample will be logged-in, and routine water quality characteristics will be determined.
 - 3.1.1 If any unusual water quality characteristics are observed (i.e., chlorine residual, elevated ammonia), City staff will be contacted to confirm and resolve any sample issues or necessary test design modifications.
- 3.2 The sample will be stored in the dark at 0-6°C, except when being used to prepare test solutions.

4. Performance of Toxicity Testing

- 4.1 The acute and chronic toxicity tests will be performed following the guidelines established by the EPA manuals "*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Ed* (EPA 821-R-02-012)" and "*Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Ed* (EPA 821-R-02-013)."
- 4.2 During the course of the testing, and in order to prevent "false positives", special observations will be made to identify any unusual conditions that might interfere or otherwise affect the test.
- 4.3 The test results will be examined on a daily basis to ensure conformance with all QA/QC requirements.

5. Evaluation and Interpretation of Test Results

- 5.1 Statistical analysis of the test data will be performed.



- 5.2 A summary of the draft test results will be emailed to City staff within approximately 48 hours of test completion.
- 5.3 A report describing the performance and results of the testing will be prepared and submitted to City staff within 10 business (14 calendar) days of test completion (expedited turn around times are available). This report will include all data required by City's NPDES permit.

6. Contingency Activities Following Observation of Toxicity

- 6.1 Pacific EcoRisk will consult with City staff to determine need for and nature of any required follow-up activities (e.g., accelerated monitoring, implementation of TRE, etc.).

3.6 Other Toxicity Testing Related Services and Contingency Activities

Toxicity Reduction Evaluation (TREs): Pacific EcoRisk is intimately familiar with the TRE process, and has helped numerous dischargers successfully implement and complete necessary TREs, including the City in early 2015. Our goal in working with our wastewater clients on TREs is to provide cost effective solutions for returning the facility to routine compliance monitoring as quickly as possible, rather than using the TRE process as a mechanism for performing costly TIEs. This is achieved via the preparation of TRE Work Plans and TRE Action Plans that appropriately reflect plant operations and effluent chemistry. These process driven documents are prepared in a fashion that provide user-friendly guidance to wastewater staff on the execution of the TRE process so that the cause and/or source of toxicity can be efficiently and cost-effectively identified. While technically complete, our TRE documents are written to be easily understood by the layperson to facilitate their usability.

Toxicity Identification Evaluation (TIEs): We pride ourselves on our research and development capabilities for those projects that may require efforts beyond the standardized tests. In particular, we bring considerable knowledge and expertise in the performance and interpretation of TIEs. Pacific EcoRisk staff have performed literally hundreds of TIEs ranging from Phase I Toxicity Characterization Procedures to Phase III Identification procedure, as well as the performance of other TRE elements, including bench-scale evaluations of appropriate treatment options in both the laboratory and in the field. It should be noted that the City of San Jose just recently conducted an extremely thorough comparison of toxicity testing lab TIE qualifications, and selected Pacific EcoRisk as the lab with whom they contracted to perform their future TIE work.



4. PRESENTATION OF SIMILAR WORK AND SUPPORTING REFERENCES

Please accept the following brief list of references as evidence of ability and competency to perform similar work. As requested, three references are provided, in addition to Pacific EcoRisk’s current contact and history with the Merced WWTF. Additional references and examples can be provided upon request.

Project Name	NPDES Acute and Chronic Toxicity Testing (Routine, Accelerated, TIE, and Special Study)	
Client	City of Stockton	
Description of Work Performed	<p>NPDES chronic toxicity evaluations of effluent produced by the Regional Wastewater Control Facility using:</p> <ul style="list-style-type: none"> • the EPA acute toxicity test with rainbow trout; • the EPA chronic toxicity test with <i>Selenastrum capricornutum</i>; • the EPA chronic toxicity test with <i>Ceriodaphnia dubia</i>; and • the EPA chronic toxicity test with fathead minnows. <p>During the period of service to Stockton MUD, Pacific EcoRisk identified the cause of ‘apparent’ toxicity to <i>S. capricornutum</i> as being due at times to stimulatory receiving water (considered a confounding/interfering factor) and at times ammonia (prior to nitrification upgrades). Similarly, Pacific EcoRisk has identified the cause of ‘apparent’ toxicity to <i>C. dubia</i> and fathead minnow as being related to pathogens. Pathogen related toxicity is considered a test interference, but often requires close observation in order to distinguish from effluent caused toxicity.</p>	
Period of Work	2002 - present	
Client Contact Info	<p>Jerry Tamura P: (209) 937-8786 E: jerry.tamura@stocktongov.com</p>	<p>David Callas P: (209) 937-8711 E: david.callas@stocktongov.com</p>

Project Name	NPDES Acute and Chronic Toxicity Testing and Toxicity Reduction Evaluation	
Client	City of Ukiah	
Description of Work Performed	<p>NPDES chronic toxicity evaluations of effluent produced by the Ukiah Wastewater Treatment Plant using:</p> <ul style="list-style-type: none"> • the EPA acute toxicity test with rainbow trout; • the EPA chronic toxicity test with <i>Selenastrum capricornutum</i>; • the EPA chronic toxicity test with <i>Ceriodaphnia dubia</i>; and • the EPA chronic toxicity test with fathead minnows. <p>As part of a recently concluded TRE, Pacific EcoRisk reviewed Ukiah’s historical data and performed a site inspection, and then successfully identified a polymer used as part of Ukiah’s treatment processes as the cause of toxicity to <i>Ceriodaphnia dubia</i>.</p>	
Period of Work	2007 - present	
Client Contact Info	<p>Joan Kelly P: (707) 467-2818 E: jkelly@cityofukiah.com</p>	<p>Andrew (Andy) Luke P: (707) 467-2818 E: aluke@cityofukiah.com</p>



Project Name	NPDES Acute and Chronic Toxicity Testing and Toxicity Reduction Evaluation
Client	City of Manteca
Description of Work Performed	<p>NPDES chronic toxicity evaluations of effluent produced by the Manteca Wastewater Treatment Plant:</p> <ul style="list-style-type: none"> • the EPA acute toxicity test with fathead minnow; • the EPA chronic toxicity test with <i>Selenastrum capricornutum</i>; • the EPA chronic toxicity test with <i>Ceriodaphnia dubia</i>; and • the EPA chronic toxicity test with fathead minnows. <p>During the period of service to Merced, Pacific EcoRisk has assisted the City of Manteca with two TREs, including preparation of TRE Action Plans, TIE, and TRE Final Reports. Pacific EcoRisk similarly assisted with negotiation of the discontinuation of use of receiving water as control and diluent with the Regional Board. Use of receiving water was confounding test interpretation and leading to false identification of effluent toxicity due to the biostimulatory response of the receiving water control.</p>
Period of Work	2002 - present
Client Contact Info	<p>Heather Grove P: (209) 456-8473 E: hgrove@ci.manteca.ca.us</p>

5. ACCEPTANCE OF CONTRACT AND INSURANCE REQUIREMENTS

Pacific EcoRisk accepts the contracting terms and insurance requirements as detailed in the Model Contract presented in the RFP. Proof of existing insurance coverage is attached as Appendix F.

6. PRICING TABLES AND MANDATORY FORMS

The pricing tables for routine NPDES permit compliance acute and chronic toxicity testing are provided below. Please note that the RFP addendum specified that chronic testing should use a single concentration (i.e., 100% effluent) test compared to a laboratory control with concurrent chronic reference toxicant testing. Single concentration test and reference toxicant test pricing is included in the pricing table.

Please note that test pricing is guaranteed for the period of the contract (through June 2019) and inclusive of the following: courier delivery of samples, sample containers, shipment of sample coolers, and standard test report preparation (e.g., 14 day TAT).

A current consulting services fee schedule (hourly based) is also provided.

Mandatory RFP submittal forms, including the local business enterprise policy's Certification of Good Faith Effort, are included as Attachment G.



ACUTE AND CHRONIC WET TESTING

Parameter	Units	Test Design	Analytical Method	Estimated Annual Quantity	Unit Cost	Extended Cost
Toxicity, Acute, Fathead Minnow Survival	% Survival	100% Effluent Only	EPA 821-R-02-012	12	\$ 716	\$ 8,592
Toxicity, Chronic, Fathead Minnow (Survival and Growth)	TUc	100% Effluent Only	EPA 821-R-02-013	4	\$ 1,023	\$ 4,092
Concurrent Fathead Minnow Reference Toxicant Test	--	Dilution Series	EPA 821-R-02-013	4	\$ 711	\$ 2,844
Toxicity, Chronic, <i>Ceriodaphnia dubia</i> (Survival and Reproduction)	TUc	100% Effluent Only	EPA 821-R-02-013	4	\$ 1,023	\$ 4,092
Concurrent <i>Ceriodaphnia dubia</i> Reference Toxicant Test	--	Dilution Series	EPA 821-R-02-013	4	\$ 663	\$ 2,652
Toxicity, Chronic, <i>Selenastrum capricornutum</i> (Growth)	TUc	100% Effluent Only	EPA 821-R-02-013	4	\$ 1,023	\$ 4,092
Concurrent <i>Selenastrum capricornutum</i> Reference Toxicant Test	--	Dilution Series	EPA 821-R-02-013	4	\$ 574	\$ 2,296
					\$	28,660
					TOTAL COST	

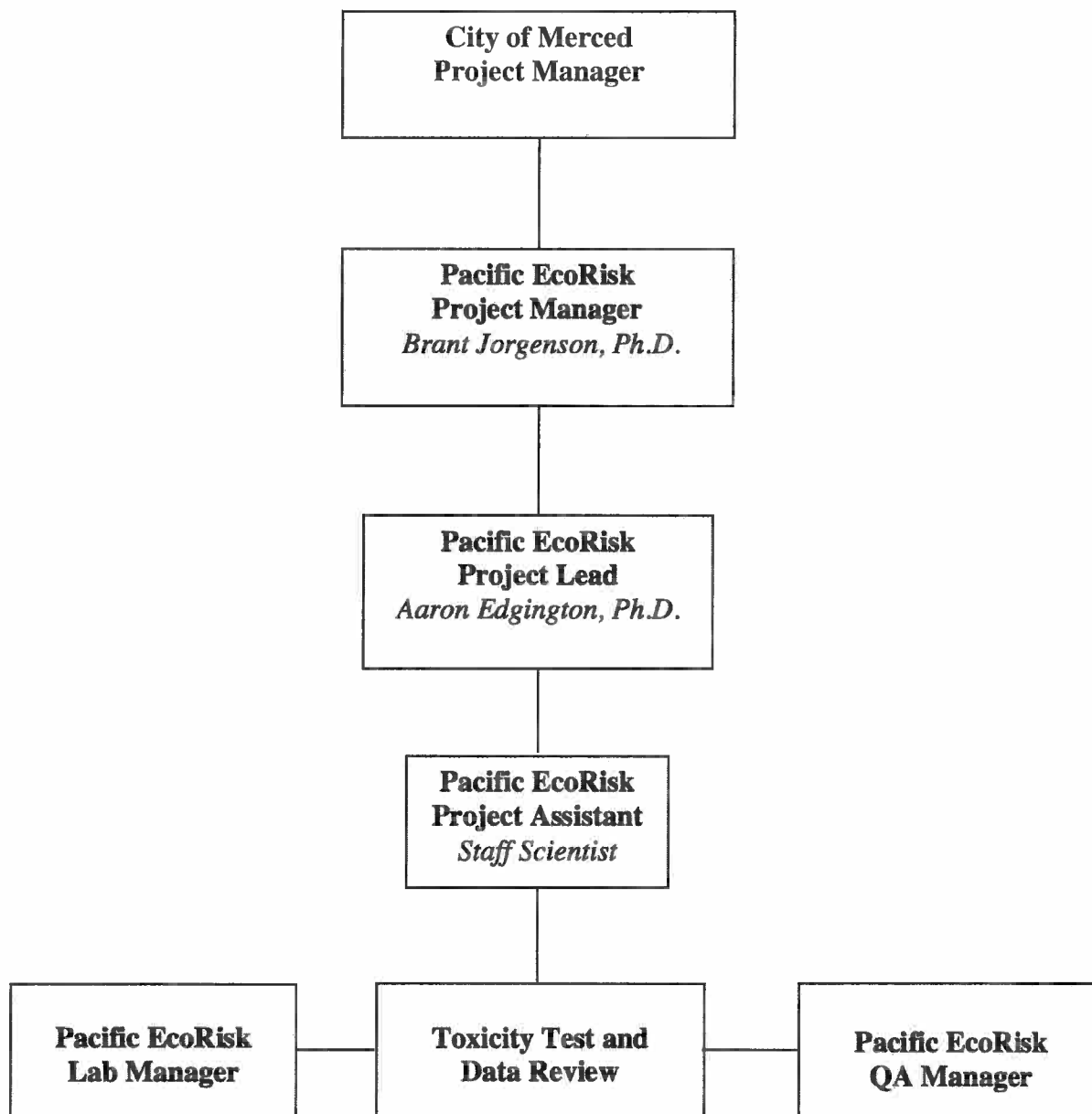
Red text indicates testing associated with NPDES permit concurrent reference toxicant test requirement
Containers, courier costs, cooler return shipment included in test pricing, and assumes concurrent 3-species chronic testing as specified in NPDES permit

CONSULTING SERVICES FEE SCHEDULE

- Senior Project Manager \$191/hr
- Assistant Project Manager \$138/hr
- Senior Scientist \$121/hr
- Scientist \$103/hr
- Lab Assistant \$59/hr
- Administrative Assistant \$59/hr



Attachment A
Organization Chart



Organizational Chart



Attachment B
Resumes of Key Project Staff

Brant C. Jorgenson
Senior Project Manager

Areas of Expertise

- **Analytical and Environmental Chemistry**
- **Water/Sediment Quality Studies**
- **Contaminant Fate and Transport**
- **Toxicity Reduction Evaluations**
- **NPDES/WDR Negotiation & Compliance**
- **Stormwater Monitoring and Management**

Education

**Ph.D. Agricultural & Environmental
Chemistry (Civil & Environmental
Engineering Department)**

University of California, Davis, CA

B.S. Environmental Toxicology

University of California, Davis, CA

Professional History

Senior Project Manager

PACIFIC ECORISK

Fairfield, CA

2014-Present

Environmental Chemist

ROBERTSON-BRYAN, INC.

Elk Grove, CA

2005-2014

Project Scientist

JONES & STOKES ASSOCIATES

Sacramento, CA

1998-2001

Project Scientist

ENVIRONMENTAL SCIENCE ASSOCIATES

Sacramento, CA

1995-1998

Dr. Brant Jorgenson is an environmental chemist with a specialty in analytical chemistry. His consulting experience spans 17 years in water quality analysis, sediment characterization and dredging, toxicity reduction evaluations, and stormwater management, as well as NPDES and WDR negotiation, compliance and monitoring. As a consulting environmental chemist, Dr. Jorgenson has provided technical and project management assistance for a variety of effluent and ambient water quality projects ranging from effluent quality characterizations to contaminant fate and transport studies. He has assisted clients in the negotiation of new NPDES permits, the development of Toxicity Identification Evaluation (TIEs) and Toxicity Reduction Evaluations (TREs) strategies as well as the preparation of TRE workplans and Action plans, and development of site-specific criteria using the Biotic Ligand Model and Water Effect Ratio (WER) studies. Dr. Jorgenson has represented clients in the development of new water resource policy, such as Basin Plan Amendments, TMDLs, and pesticide criteria development, including most recently Basin Plan Amendments for chlorpyrifos and diazinon in the Central Valley of California, as well as TMDL and waste load allocation targets for several pyrethroid insecticides and the herbicide diuron.

Dr. Jorgenson has published in scientific journals on the topic of fate and transport of pyrethroid insecticides applied to urban and suburban landscapes. His research on the topic was instrumental in informing the California Department of Pesticide Regulation's pyrethroid registration re-evaluation process, ending with promulgation of new surface water protection rules targeted at structural and landscape pest control practices.



Aaron Edgington
Senior Aquatic Ecotoxicologist

Areas of Expertise

- **NPDES Testing**
- **Toxicity Identification Evaluations**
- **Water-Effect Ratios**
- **Contaminant Fate and Transport**
- **Aquatic Toxicology**

Education

Ph.D. Environmental Toxicology
Clemson University, Clemson SC

B.S. Environmental Science
Western Washington University, Bellingham WA

Professional History

Senior Aquatic Ecotoxicologist
PACIFIC ECORISK
Fairfield, CA
November 2015-Present

Senior Scientist
Exponent, Inc
Bellevue, WA
July 2014 – August 2015

Post Doctoral Scholar
Oregon State University
Corvallis, OR
2012-2014

For more than 10 years, Dr. Aaron Edgington has been participating in research and testing in the area of aquatic ecotoxicology. Dr. Edgington specializes in assessing effects from exposure to metals, PAHs, and nanomaterials. For these purposes, he has experience in designing, implementing, and evaluating aquatic toxicology testing systems for acute and chronic exposures. His consulting experience spans 4 years in aquatic toxicology, natural resource damage assessment, and NPDES.

Dr. Edgington has also analyzed and evaluated aquatic and sediment laboratory toxicity data and field collected data. He also has experience in determining exposure pathways for organism to evaluate risk of exposure to a variety of contaminants.

Currently, Dr. Edgington serves as Project Lead for several NPDES clients, is expert in managing all aspects related to NPDES studies, and has comprehensive experience performing testing with a wide variety of freshwater, estuarine, and marine test species. He also assists with other project specific research under his area of expertise, including toxicity identification evaluations (TIEs) of complex effluent samples and water-effect ratios (WERS).



Attachment C
NELAP Accreditation Certificate





OREGON

Environmental Laboratory Accreditation Program



NELAP Recognized

**Pacific EcoRisk
4043**

2250 Cordelia Road
Fairfield, CA 94534

IS GRANTED APPROVAL BY ORELAP UNDER THE 2009 TNI STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW :

<i>Air</i>	<i>Drinking Water</i>	<i>Non Potable Water</i>	<i>Solids and Chem. Waste</i>	<i>Tissue</i>
		Chemistry	Chemistry	
		Toxicity Testing	Toxicity Testing	

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES, METHODS, ANALYTICAL TECHNIQUES, AND FIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS IN OREGON.

Gary K. Ward, MS

Oregon State Public Health Laboratory

ORELAP Administrator

3150 NW. 229th Ave, Suite 100

Hillsboro, OR 97124

ISSUE DATE: 01/30/2016

EXPIRATION DATE: 01/29/2017

Certificate No: 4043 - 004





Oregon

Environmental Laboratory Accreditation Program



Department of Agriculture, Laboratory Division
Department of Environmental Quality, Laboratory Division
Oregon Health Authority, Public Health Division

NELAP Recognized

ORELAP Fields of Accreditation

ORELAP ID: 4043

EPA CODE: CA01307

Certificate: 4043 - 004

Pacific EcoRisk

2250 Cordelia Road
Fairfield CA 94534

Issue Date: 01/30/2016 Expiration Date: 01/29/2017

As of 01/30/2016 this list supersedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.

MATRIX : Non-Potable Water

Reference	Code	Description
ASTM E1218-04	910	Standard Guide for Conducting Static Toxicity Tests with Microalgae
<i>Analyte Code</i>	<i>Analyte</i>	
817	Diatom (<i>T. pseudonana</i>)	
808	Green algae (<i>S. capricornutum</i>)	
EPA 1000.0	10252605	Fathead Minnow Larval Survival and Growth, chronic (EPA 821/R-02/013)
<i>Analyte Code</i>	<i>Analyte</i>	
800	Fathead Minnow (<i>P. promelas</i>)	
EPA 1002.0	10253006	Daphnid Survival and Reproduction, chronic (EPA 821/R-02/013)
<i>Analyte Code</i>	<i>Analyte</i>	
802	Daphnid (<i>C. dubia</i>)	
EPA 1003.0	10253200	Green Alga Growth, chronic (EPA 821/R-02/013)
<i>Analyte Code</i>	<i>Analyte</i>	
808	Green algae (<i>S. capricornutum</i>)	
EPA 1004.0	10253404	Sheepshead Minnow Larval Survival and Growth, chronic (EPA 821/R-02/014)
<i>Analyte Code</i>	<i>Analyte</i>	
805	Sheepshead Minnow (<i>C. variegatus</i>)	
EPA 1006.0	10253802	Inland Silverside Larval Survival and Growth, chronic (EPA 821/R-02/014)
<i>Analyte Code</i>	<i>Analyte</i>	
804	Silverside (<i>Menidia</i> spp.)	
EPA 1007.0	10254009	Mysid Survival, Growth, and Fecundity, chronic (EPA 821/R-02/014)
<i>Analyte Code</i>	<i>Analyte</i>	
806	Mysid (<i>M. bahia</i>)	
EPA 600/R-95/136 1st	920	SHORT-TERM METHODS FOR ESTIMATING THE CHRONIC TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO WEST COAST MARINE AND ESTUARINE ORGANISMS
<i>Analyte Code</i>	<i>Analyte</i>	
814	Giant Kelp (<i>M. pyrifera</i>)	
813	Mussels (<i>Mytilus</i> spp.)	

ORELAP Fields of Accreditation

ORELAP ID: 4043

EPA CODE: CA01307

Certificate: 4043 - 004

Pacific EcoRisk

2250 Cordelia Road
Fairfield CA 94534

Issue Date: 01/30/2016

Expiration Date: 01/29/2017

As of 01/30/2016 this list supercedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.

Analyte Code	Analyte	
810	Pacific oyster (<i>C. gigas</i>)	
815	Red Abalone (<i>H. rufescens</i>)	
807	Topsmelt (<i>A. affinis</i>)	
EPA 600/R-95/136 Dev	922	SHORT-TERM METHODS FOR ESTIMATING THE CHRONIC TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO WEST COAST MARINE AND ESTUARINE ORGANISMS - Development
Analyte Code	Analyte	
812	Purple Sea Urchin (<i>S. purpuratus</i>)	
811	Sand Dollar (<i>D. excentricus</i>)	
EPA 600/R-95/136 Fert	921	SHORT-TERM METHODS FOR ESTIMATING THE CHRONIC TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO WEST COAST MARINE AND ESTUARINE ORGANISMS - Fertilization
Analyte Code	Analyte	
812	Purple Sea Urchin (<i>S. purpuratus</i>)	
811	Sand Dollar (<i>D. excentricus</i>)	
EPA 821-R-02-012 FW	901	Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms - FW
Analyte Code	Analyte	
803	Daphnia spp.	
802	Daphnid (<i>C. dubia</i>)	
800	Fathead Minnow (<i>P. promelas</i>)	
801	Rainbow Trout (<i>O. mykiss</i>)	
EPA 821-R-02-012 SW	902	Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms - SW
Analyte Code	Analyte	
806	Mysid (<i>M. bahia</i>)	
805	Sheepshead Minnow (<i>C. variegatus</i>)	
804	Silverside (<i>Menidia</i> spp.)	
807	Topsmelt (<i>A. affinis</i>)	

ORELAP Fields of Accreditation

ORELAP ID: 4043

EPA CODE: CA01307

Certificate: 4043 - 004

Pacific EcoRisk2250 Cordelia Road
Fairfield CA 94534

Issue Date: 01/30/2016 Expiration Date: 01/29/2017

**As of 01/30/2016 this list supercedes all previous lists for this certificate number.
Customers. Please verify the current accreditation standing with ORELAP.****MATRIX : Solids**

Reference	Code	Description
ASTM E1688-10 2010	30045386	Determination of the Bioaccumulation of Sediment-Associated Contaminants by Benthic Invertebrates
Analyte Code	Analyte	
3464	Macoma nasuta	
891	Nephtys caecoides	
890	Nephtys incisa	
3402	Nereis virens	
EPA 600/R-94/025	960	Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods
Analyte Code	Analyte	
821	Amphipod (A. abdita)	
822	Amphipod (E. estuarius)	
823	Amphipod (L. plumulosus)	
824	Amphipod (R. abronius)	
EPA 600/R-99/064 2nd	950	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates
Analyte Code	Analyte	
818	Amphipod (H. azteca)	
819	Midge (C. tentans)	
820	Oligochaete (L. variegatus)	
Polisini & Miller (CDFG 1988)	970	Static Acute Bioassay Procedures for Hazardous Waste Samples
Analyte Code	Analyte	
800	Fathead Minnow (P. promelas)	
801	Rainbow Trout (O. mykiss)	

Attachment D
ELAP Accreditation Certificate



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Interim



CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Pacific EcoRisk, Inc.

2250 Cordelia Road

Fairfield, CA 94534

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2085**

Expiration Date: **9/30/2016**

Effective Date: **10/1/2015**

Sacramento, California
subject to forfeiture or revocation


Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing



Pacific EcoRisk, Inc.

2250 Cordelia Road
Fairfield, CA 94534
Phone: (707) 207-7760

Certificate No. 2085
Expiration Date 9/30/2016
INTERIM

Field of Testing: 113 - Whole Effluent Toxicity of Wastewater

113.021	001A	Fathead Minnow (<i>P. promelas</i>)	EPA 2000 (EPA-821-R-02-012), Static
113.021	001b	Fathead Minnow (<i>P. promelas</i>)	EPA 2000 (EPA-821-R-02-012), Static Renewal
113.021	001c	Fathead Minnow (<i>P. promelas</i>)	EPA 2000 (EPA-821-R-02-012), Continuous Flow
113.022	003a	Rainbow trout (<i>O. mykiss</i>)	EPA 2019 (EPA-821-R-02-012), Static
113.022	003b	Rainbow trout (<i>O. mykiss</i>)	EPA 2019 (EPA-821-R-02-012), Static Renewal
113.022	003c	Rainbow trout (<i>O. mykiss</i>)	EPA 2019 (EPA-821-R-02-012), Continuous Flow
113.023	005a	Daphnid (<i>C. dubia</i>)	EPA 2002 (EPA-821-R-02-012), Static
113.023	005b	Daphnid (<i>C. dubia</i>)	EPA 2002 (EPA-821-R-02-012), Static Renewal
113.023	005c	Daphnid (<i>C. dubia</i>)	EPA 2002 (EPA-821-R-02-012), Continuous Flow
113.024	006a	Daphnia spp.	EPA 2021 (EPA-821-R-02-012), Static
113.024	006b	Daphnia spp.	EPA 2021 (EPA-821-R-02-012), Static Renewal
113.024	006c	Daphnia spp.	EPA 2021 (EPA-821-R-02-012), Continuous Flow
113.025	009a	Silverside (<i>Menidia</i> spp.)	EPA 2006 (EPA-821-R-02-012), Static
113.025	009b	Silverside (<i>Menidia</i> spp.)	EPA 2006 (EPA-821-R-02-012), Static Renewal
113.025	009c	Silverside (<i>Menidia</i> spp.)	EPA 2006 (EPA-821-R-02-012), Continuous Flow
113.026	011a	Sheepshead minnow (<i>C. variegatus</i>)	EPA 2004 (EPA-821-R-02-012), Static
113.026	011b	Sheepshead minnow (<i>C. variegatus</i>)	EPA 2004 (EPA-821-R-02-012), Static Renewal
113.026	011c	Sheepshead minnow (<i>C. variegatus</i>)	EPA 2004 (EPA-821-R-02-012), Continuous Flow
113.027	012a	Mysid (<i>M. bahia</i>)	EPA 2007 (EPA-821-R-02-012), Static
113.027	012b	Mysid (<i>M. bahia</i>)	EPA 2007 (EPA-821-R-02-012), Static Renewal
113.027	012c	Mysid (<i>M. bahia</i>)	EPA 2007 (EPA-821-R-02-012), Continuous Flow
113.028	008a	Topmelt (<i>A. affinis</i>)	EPA-821-R-02-012, Static
113.028	008b	Topmelt (<i>A. affinis</i>)	EPA-821-R-02-012, Static Renewal
113.028	008c	Topmelt (<i>A. affinis</i>)	EPA-821-R-02-012, Continuous Flow
113.029	001a	Hyalalella spp.	EPA-821-R-02-012, Static
113.029	001b	Hyalalella spp.	EPA-821-R-02-012, Static Renewal
113.029	001c	Hyalalella spp.	EPA-821-R-02-012, Continuous Flow
113.041	001	Fathead Minnow (<i>P. promelas</i>)	EPA 1000 (EPA-821-R-02-013)
113.051	005	Daphnid (<i>C. dubia</i>)	EPA 1002 (EPA-821-R-02-013)
113.061	020	Green algae (<i>S. capricornutum</i>)	EPA 1003 (EPA-821-R-02-013)
113.071	020	Green algae (<i>S. capricornutum</i>)	ASTM E1218-04
113.076	011	Sheepshead minnow (<i>C. variegatus</i>)	EPA 1004 (EPA-821-R-02-014)
113.081	009	Silverside (<i>Menidia</i> spp.)	EPA 1006 (EPA-821-R-02-014)
113.091	012	Mysid (<i>M. bahia</i>)	EPA 1007 (EPA-821-R-02-014)
113.120	008	Topmelt (<i>A. affinis</i>)	EPA 600/R-95/136
113.120	014	Pacific oyster (<i>C. gigas</i>)	EPA 600/R-95/136
113.120	015D	Sand dollar (<i>D. excentricus</i>)	EPA 600/R-95/136, Fertilization Test
113.120	015E	Sand dollar (<i>D. excentricus</i>)	EPA 600/R-95/136, Development Test

As of 9/2/2015, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

113.120	017D	Purple sea urchin (<i>S. purpuratus</i>)	EPA 600/R-95/136, Fertilization Test
113.120	017E	Purple sea urchin (<i>S. purpuratus</i>)	EPA 600/R-95/136, Development Test
113.120	019	Mussels (<i>Mytilus</i> spp.)	EPA 600/R-95/136
113.120	022	Giant kelp (<i>M. pyrifera</i>)	EPA 600/R-95/136
113.120	023	Red abalone (<i>H. rufescens</i>)	EPA 600/R-95/136
113.141	025	Diatom (<i>T. pseudonana</i>)	ASTM E1218-04
113.160	026	Amphipod (<i>H. azteca</i>)	EPA 600/R-99/064, EPA 100.1
113.170	027	Midge (<i>C. tentans</i>)	EPA 600/R-99/064, EPA 100.2
113.180	028	Oligochaete (<i>L. variegatus</i>)	EPA 600/R-99/064, EPA 100.3
113.190	026	Amphipod (<i>H. azteca</i>)	EPA 600/R-99/064, EPA 100.4
113.200	027	Midge (<i>C. tentans</i>)	EPA 600/R-99/064, EPA 100.5
113.210	029	Amphipod (<i>A. abdita</i>)	EPA 600/R-94/025, EPA 100.4
113.210	030	Amphipod (<i>E. estuaris</i>)	EPA 600/R-94/025, EPA 100.4
113.210	031	Amphipod (<i>L. plumulosus</i>)	EPA 600/R-94/025, EPA 100.4
113.210	032	Amphipod (<i>R. abronius</i>)	EPA 600/R-94/025, EPA 100.4

Field of Testing: 119 - Toxicity Bioassay of Hazardous Waste

119.010	001	Fathead Minnow (<i>P. promelas</i>)	Polisini & Miller (CDFG 1998)
119.010	003	Rainbow trout (<i>O. mykiss</i>)	Polisini & Miller (CDFG 1998)

Attachment E
2015 NELAP Audit Report



Oregon

Environmental Laboratory Accreditation Program



NELAP Recognized

Department of Agriculture, Laboratory Services Division
Department of Environmental Quality, Laboratory and Environmental Assessment Division
Oregon State Public Health Laboratory

Oregon State Public Health Laboratory
3150 NW 229th Ave, Suite 100
Hillsboro, OR 97124
(503) 693-4122
FAX (503) 693-5602

Pacific EcoRisk 4043

On-Site Assessment Final Report
Assessment Date: January 22, 2015
Report Date: January 30, 2015

Assessment Team:
Gary K Ward

Oregon DHS

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Introduction

ORELAP, in accordance to the NELAP standards, must conduct a comprehensive on-site assessment of each laboratory prior to granting initial accreditation. In addition, an on-site assessment of each accredited laboratory must be completed at least every two years. Assessments for cause may be conducted more frequently as determined necessary by the accrediting authority.

This report is divided up into the following sections:

- 1. Objective-** Describes the objective of the on-site assessment.
- 2. Summary -** Presents an executive summary of the on-site assessment.
- 3. Deficiencies Requiring Immediate Attention -** Presents a list of deficiencies observed during the on-site or in review of documentation. These deficiencies are judged to affect data quality and must be addressed prior to accreditation. Any updated procedures, policies, SOPs, or other missing or updated documentation must be submitted to ORELAP prior to accreditation.
- 4. Deficiencies To Be Addressed In The Corrective Action Plan -** Presents a list of deficiencies observed during the on-site or in review of documentation. These deficiencies are judged not to affect data quality directly and may be addressed in the corrective action plan. The plan must include the action that the laboratory will implement to correct each deficiency and the time period required to accomplish that corrective action.
- 5. Recommendations -** Presents comments and recommendations aimed at helping the laboratory improve. No action is required on information in this section

Cited deficiencies are listed with the on-site assessment question number, the actual standard reference, and the question from the on-site assessment checklist. These references appear in an italic font. The actual standard may be found at http://www.NELAC-institute.org/standards.php#pab1_1. The assessor's finding of nonconformance to the NELAP standard follows in a blue font.

In response to this on-site assessment report, the laboratory must submit a report to ORELAP called a "Corrective Action Plan", which describes the laboratory's plan to correct each cited deficiency. The ORELAP assessment team will review the Corrective Action Plan and determine whether it adequately addresses cited deficiencies.

The Corrective Action Plan and evidence of compliance in response to deficiencies requiring immediate attention must be submitted to the ORELAP administrator, in writing, within 30 calendar days from the receipt of the On-site Assessment Report. Failure to respond in this time frame may result in denial or revocation of accreditation, in part or total.

Any response should be sent to Gary.K.Ward@state.or.us or the following address:

Oregon State Public Health Laboratory
3150 NW 229th Ave., Suite 100
Hillsboro, OR 97124
Attn: ORELAP administrator

Introduction

An electronic form containing the citations listed below will be emailed to you. ORELAP requests that you use this form as your formal Corrective Action Plan although you must address each deficiency listed in this report. The laboratory should note any omissions or additions to the electronic form with respect to this report. If you do not receive the email or would like the form in a different format (Word document, Excel Spreadsheet, etc.), please contact the lead ORELAP assessor.

When responding to this report, please address each of the following:

1. Respond to each and every deficiency cited in the order in which they occur, by topic heading and question number. The electronic form should be provided concurrently with this report. The electronic form lists each deficiency in a table format with room for the laboratory to insert its response.
2. In addition to submitting a completed corrective action form, provide evidence of the correction whenever possible and reference it in the electronic form. If a document is to be revised, submit a copy of the revision, clearly indicating the changes made in response to the cited deficiency. If an item needs to be purchased, submit a copy of the purchase receipt. If a procedure needs to be performed, submit a copy of the log or bench sheet where the procedure was documented.
3. If the collection of evidence showing compliance to the standard will take more than 30 calendar days, please indicate this in the electronic form with a deadline for completion. ORELAP will anticipate receiving a copy of the correction at the end of the deadline.
4. Please enter all plans for corrections in the corrective action electronic form and submit it within the 30 day time window, but please do not send required Corrective Action Plan documents until all are completed at your deadline.
5. Meet all deadlines.
6. The electronic corrective action form and all other documents must be submitted to the ORELAP administrator via email or by mailing a CD.

However, all findings were recommendations and as such this document serves as the Final Assessment Report and there is no requirement for a Corrective Action Plan..

Objective

The on-site assessment is an integral and requisite part of the NELAP laboratory accreditation program and is one of the primary means of determining a laboratory's capabilities and qualifications. During the on-site assessment, the assessment team collects and evaluates information and makes observations which are used to judge the laboratory's conformance to the established accreditation standards.

The responsibility for promulgating and enforcing occupational safety and health standards rests with the US Department of Labor. The laboratory is also responsible for meeting all local and Federal hazardous waste requirements. While it is not within the scope of the assessment team to evaluate health and safety regulations or potential hazardous waste violations, the assessment team is required to report these to the appropriate laboratory official and when deemed necessary, forward any potential violations to the appropriate authority. The accreditation on-site assessment is not intended to certify that the laboratory is in compliance with any applicable health and safety or hazardous waste regulations or requirements.

The following areas have been evaluated to determine the laboratory's compliance with the NELAP standards:

- * Organization and management
- * Quality System - establishment, assessments, essential quality controls and data verification
- * Personnel
- * Physical facilities - accommodation and environment
- * Equipment and reference materials
- * Measurement traceability and calibration
- * Test methods and standard operating procedures (SOPs)
- * Sample handling, sample acceptance policy and sample receipt
- * Records
- * Laboratory report format and contents
- * Subcontracting of samples
- * Outside support services and supplies
- * Dealing with complaints

Receiving or maintaining accreditation requires that the laboratory meet the standards as presented, implement all corrective actions, pay all fees, and participate in the proficiency testing program as outlined in the NELAP standards.

Summary

We would like to thank the management and staff for their hospitality, openness, and honesty during the on-site assessment conducted at Pacific EcoRisk located in Fairfield, CA on 1/22/15. The on-site assessment was conducted to fulfill the NELAP requirement following a new application.

The assessment team included:

Gary Ward, lead assessor and technical expert.

Each assessor has signed a "Conflict of Interest Attestation" form to assert their impartial evaluation of the laboratory's compliance to the NELAP standards.

Attending the opening conference on 1/19/15 included:

Gary Ward

Stephen Clark

Robert Schaadt

Attending the closing conference on 1/22/15 included:

Gary Ward

Stephen Clark

Robert Schaadt

During the opening and/or closing conference you completed ORELAP's "NELAP Assessment Confidentiality Notice" form. No ORELAP assessor requested copies of documents or records for which you wished to declare as confidential. You were also provided an "ORELAP Assessment Appraisal Form" and the assessment team would like to encourage you to complete it and forward it onto the ORELAP administrator.

Deficiencies Requiring Immediate Attention

There are no deficiencies requiring immediate corrective action.

Deficiencies To Be Addressed In The Corrective Action Plan

There are no deficiencies to address only in a corrective action plan.

Recommendations

QA - Quality Systems

Method(s): QA

171 Reference: 5.4.12.1.4

Does the laboratory have procedures to protect and back-up records stored electronically and to prevent unauthorized access to or amendment of records stored electronically?

Recommend off-site backup storage.

177 Reference: 5.4.12.1.5.d

Are all changes to records signed or initialed by responsible staff?

Some instances of correction not single line thru, initial, dated.

Recommend refresher training on making data corrections.

209 Reference: 5.4.12.2.5.3.a-n

Do analytical records include the following essential information associated with an analysis, such as strip charts, tabular printouts, computer data files, analytical notebooks, and run logs

Laboratory sample ID code?

Date of analysis and time of analysis is required if the holding time is 72 hours or less or when time critical steps are included in the analysis, e.g., extractions, and incubations?

Instrumentation identification and instrument operating conditions/parameters (or reference to such data)?

Analysis type?

All manual calculations, e.g., manual integrations? and,

Analyst's or operator's initials/signature?

Sample preparation including cleanup, separation protocols, incubation periods or subculture, ID codes, volumes, weights, instrument printouts, meter readings, calculations, reagents?

Sample analysis?

Standard and reagent origin, receipt, preparation, and use?

Calibration criteria, frequency and acceptance criteria?

Data and statistical calculations, review, confirmation, interpretation, assessment, and reporting conventions?

Quality control protocols and assessment?

Electronic data security, software documentation and verification, software and hardware audits, backups, and records of any changes to automated data entries?

Method performance criteria including expected quality control requirements?

Recommend recording Instrument ID for support equipment used to make measurements at login, ie. DO, pH, Cond,

559 Reference: Appendix D

Are quality control acceptance criteria used to determine the validity of the data?

Recommend putting acceptability window on data sheets (weights, DO, etc)

Attachment F
Proof of Existing Insurance



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/14/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER ISU INS SERV - BC ENV BROKERAGE 1037 Suncastr Ln Ste 103 El Dorado Hills, CA 95762	CONTACT NAME:	
	PHONE (A/C No Ext): (916) 939-1080	FAX (A/C No): (916) 939-1085
E-MAIL ADDRESS:		
INSURER(S) AFFORDING COVERAGE		NAIC#
INSURER A:	WESTCHESTER SURP LINES INS CO.	10172
INSURER B:		
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:			G27517079 001	10/13/14	10/13/16	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000 \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE EACH OCCURRENCE \$ AGGREGATE \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						<input type="checkbox"/> Y/N <input type="checkbox"/> N/A <input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	PROFESSIONAL LIAB. CONT. POLL. LIAB. (CLAIMS MADE)			G27517079 001 PL RETRO 10/24/96 CPL RETRO 10/13/05	10/13/14	10/13/16	\$2,000,000 OCCURRENCE \$2,000,000 AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: **ALL OPERATIONS**
THE CITY OF MERCED, ITS OFFICERS, OFFICIALS, AGENTS, EMPLOYEES AND VOLUNTEERS
HAVE BEEN NAMED AS ADDITIONAL INSURED WITH RESPECT TO THE GENERAL LIABILITY.
(BLANKET ENDORSEMENTS ATTACHED)

CERTIFICATE HOLDER
CITY OF MERCED
ATTN: SHERRI OLEA
ENVIRONMENTAL CONTROL DIVISION
678 W. 18TH STREET
MERCED, CA 95340

CANCELLATION
 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
 AUTHORIZED REPRESENTATIVE



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
9/28/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Commercial Lines - (707) 769-2900 Wells Fargo Insurance Services USA, Inc. - CA Lic#: 0D08408 1039 N. McDowell Blvd. Petaluma, CA 94954-1173	CONTACT NAME: PHONE (A/C, No, Ext): _____ FAX (A/C, No): _____ E-MAIL ADDRESS: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 80%;">INSURER(S) AFFORDING COVERAGE</th> <th style="width: 20%;">NAIC #</th> </tr> <tr> <td>INSURER A: Travelers Property Casualty Co of America</td> <td>25674</td> </tr> <tr> <td>INSURER B:</td> <td></td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Travelers Property Casualty Co of America	25674	INSURER B:		INSURER C:		INSURER D:		INSURER E:		INSURER F:	
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INSURER D:															
INSURER E:															
INSURER F:															
INSURED Pacific EcoRisk, Inc. 2250 Cordelia Road Fairfield CA 94534															

COVERAGES **CERTIFICATE NUMBER: 9602522** **REVISION NUMBER: See below**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD / WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER					EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COM/POP AGG \$ \$
	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS		BA1F028575CAG15	10/1/2015	10/1/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB EXCESS LIAB DED RETENTION \$					EACH OCCURRENCE \$ AGGREGATE \$ \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N Y N/A	UB1F03091515	10/1/2015	10/1/2016	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E L EACH ACCIDENT \$ 1,000,000 E L DISEASE - EA EMPLOYEE \$ 1,000,000 E L DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CA T3 53 06 09, WC 99 03 76 A-001 RE: All Operations
 The City of Merced, its officers, officials, agents, employees and volunteers are included as additional insured under the auto liability per attached endorsement form referenced above. Waiver of Subrogation under the workers' compensation coverage per endorsement listed above.

CERTIFICATE HOLDER City of Merced, Environmental Control DIV 678 W 18th St. Merced, CA 95340	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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Attachment G
Certification of Good Faith

(This form must be returned with bid)

**CITY OF MERCED
PROJECT NUMBER**

PROJECT NAME

CERTIFICATION OF GOOD FAITH EFFORT

Bidders are required to initial the underlined space provided to the left of each applicable provision if the bidder achieved compliance and submit this certification checklist with the bid to the Office of the Purchasing Agent, at 2525 "O" Street, Merced, California 95340. Failure to submit the required checklist with the bid will render the bid non-responsive.

1. _____ The bidder is a certified Local Business Enterprise and is therefore automatically qualified for 100% credit. No other portions of this Certification of Good Faith Effort form (except date, signature and contractor name) are required to be filled out and detailed documentation is not required

(If item 1 above is not checked, please proceed)

2. _____ The bidder is not a Local Business Enterprise. The bidder hereby certifies that his actual LBE participation, estimated at _____%, exceeds the goal listed in the Notice Inviting Bids. No other portions of this Certification of Good Faith Effort form (except date, signature and contractor name) are required to be filled out. Within two days after bid opening, only item 7 of the detailed Good Faith Effort Documentation, listing LBEs who will be subcontractors on this project, is required if bidder is the low bidder. (If the bidder has checked this item and after the bids are opened, it is determined that the bidder has not actually met the goal, the bidder must submit a new certification form completely documenting the bidder has made a good faith effort as required below.)

(If item 1 or 2 in not checked, you must complete the remainder of this form)

3. The bidder has made a good faith effort to obtain sub-bid participation by LBEs which could reasonably be expected to produce a level of participation by LBEs as called for in the Notice Inviting Bids.

4. le The bidder has identified and selected specific work items in the project to be performed by subbidder/subcontractors in order to provide an opportunity for participation by LBEs. Upon making this determination, the bidder subdivided the total contract work requirements into smaller portions or quantities to permit maximum active participation of LBEs. If the bidder's total identified opportunities for subcontracting are less than the requested participation, this shall not disqualify the bid. However, bidder must make a good faith effort on all identified subcontracting.
5. le The bidder has documented efforts to follow-up initial solicitations of sub-bid interest by contacting the affected business enterprises to determine with certainty whether said enterprises were interested in performing specific portions of the project work.
6. le The bidder has negotiated in good faith with interested LBEs and did not unjustifiably reject as unsatisfactory bids or proposals prepared by any enterprise, as determined by the City. As documentation due after the bid, the bidder must submit a list of all sub-bidders for each item of work solicited, including dollar amounts of potential work for LBEs.
7. le The bidder estimates that his total LBE participation will be 0%. (Actual amount to be provided with detailed documentation due after bid).

CERTIFICATION

I have used this checklist and certify that positive steps were taken and documented to ensure that all available LBEs have had an equal opportunity to compete for and participate in this project. I am submitting this Certification of Good Faith Effort checklist herewith as evidence of the "Good Faith Effort" made. I understand that if I am the low bidder I am required to submit detailed documentation (unless I am a certified LBE or only the list of LBE's if I have met the goal) by 5:00 P.M. within two working days after the day of the bid opening or if my bid is to be considered for award, I am required to submit detailed documentation by 5:00 P.M. within two working days after receiving the request from the Engineering Department. I understand that if my documentation does not demonstrate that I have complied with the requirements of the "Good Faith Effort Outreach Program" as required by these bid specifications or if I do not submit adequate documentation, that my bid will be deemed non-responsive by the City.

3/10/11
Date

[Signature]
Officer's Signature

Pacific Ecology
Firm Name:

Stephen L. Clark
Officer's Name and Title (Type or Print)
Vice President